AN

OFFICIAL GUIDE

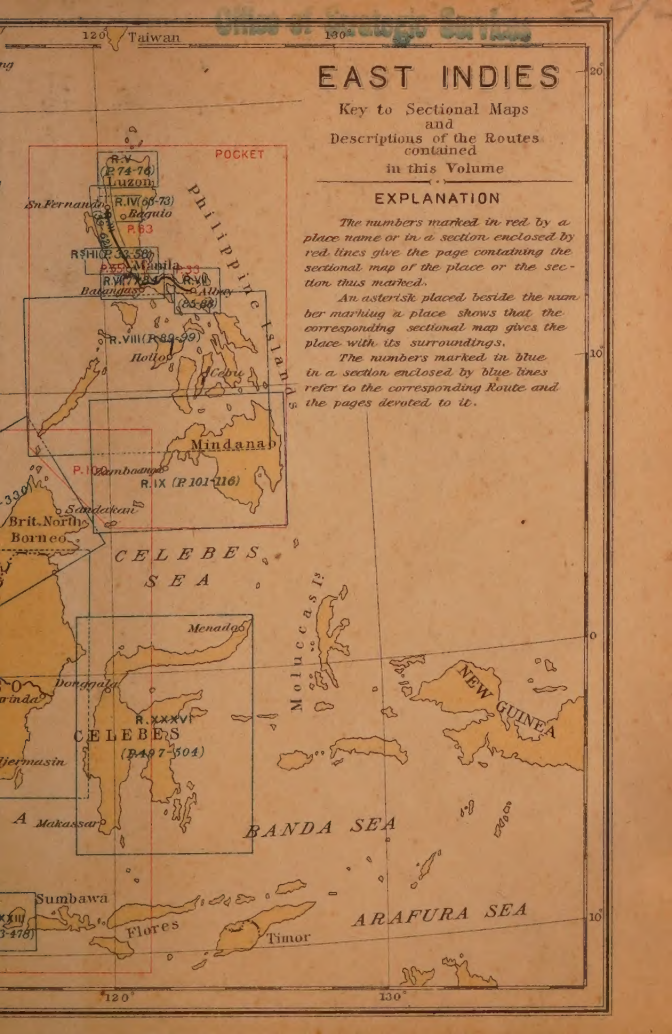
TO

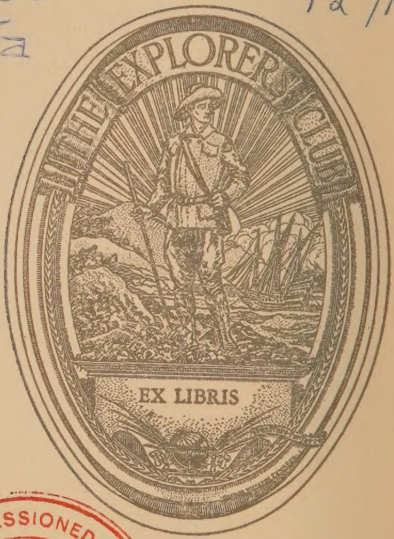
EASTERN ASIA

VOL. V

EAST INDIES

90°
100°
110°
20°
10°
0°
10°
CHINA
BURMA
BAY OF BENGAL
Rangoon
Andaman Is.
SIAM
Bangkok
Korat
Angkor
Phnompenh
Saigon
Nha Trang
Lang-bian
Hue
Haiphong
Hanoi
Hainan I.
FRENCH INDO CHINA
R. Mekong
G. of Siam
Malay P.
Penang
Sabang
Belawan Deli
Medan
Kuala Lumpur
Malacca
Singapore
SUMATRA
Padang
Palembang
Telok Betong
INDIAN OCEAN
JAVA
Batavia
Bulwin
Poontianak
Labu
Saraw
BOR
R. XI (139-159)
R. XIII (155-159)
R. XIV (160-162)
R. XV
R. XVI (P. 173-181)
R. XVII (P. 189-194)
R. XVIII (P. 195-202)
R. XIX
R. XX (P. 203-230)
R. XXI (P. 252-264)
R. XXII (P. 289-305)
R. XXIV (P. 322-327)
R. XXV
R. XXVI (P. 375-393)
R. XXVII (P. 394-413)
R. XXVIII
R. XXX (P. 448-454)
P. 131
P. 135
P. 139
P. 173
P. 183
P. 185
P. 195
P. 251
P. 289
P. 311
P. 323
P. 333
P. 485
POCKET


EAST INDIES
Key to Sectional Maps
and
Descriptions of the Routes
contained
in this Volume
EXPLANATION
The numbers marked in red by a place name or in a section enclosed by red lines give the page containing the sectional map of the place or the section thus marked.
An asterisk placed beside the number marhiug a place shows that the corresponding sectional map gives the place with its surroundings.
The numbers marked in blue in a section enclosed by blue lines refer to the corresponding Route and the pages devoted to it.
Taiwan
POCKET
R.V (P.74-76)
Luzon
Sn Fernando
R.IV (68-73)
Baguio
P.63
Manila
Batangas
R.VII
Albay
(85-88)
R.VIII (P.89-99)
Iloilo
Cebu
Philippine Islands
Mindanao
Zamboanga
R.IX (P.101-116)
Sandakan
Brit. North Borneo
CELEBES SEA
Menado
Donggala
R.XXXVI
CELEBES
(P.497-504)
Makassar
Moluccas Is.
NEW GUINEA
BANDA SEA
Sumbawa
Flores
Timor
ARAFURA SEA
120°
130°
20°
10°
0



955*
Ja

12716

THE EXPLORERS CLUB

EX LIBRIS

Presented by
H. T. Cowling

DEACCESSIONED
THE EXPLORERS CLUB
DEACCESSIONED

AN

OFFICIAL GUIDE

TO

EASTERN ASIA

TRANS-CONTINENTAL CONNECTIONS
BETWEEN EUROPE & ASIA

Vol. V

EAST INDIES

INCLUDING

Philippine Islands, French Indo-China, Siam, Malay Peninsula, and Dutch East Indies

PREPARED BY
THE DEPARTMENT OF RAILWAYS
TOKYO, JAPAN

Second Edition 1920

ALL RIGHTS RESERVED.

CORNELL UNIVERSITY
LIBRARY

PREFACE

IT was more than eight years ago that the Government Railways of Japan, at the instance of Baron Gotō, the then Minister of Communications, commenced the work of preparing a general, compendious guide-book on Eastern Asia. Four volumes have already been published—Vol. I. devoted to Manchuria and Chōsen, Vol. II. to South-Western Japan, Vol. III. to North-Eastern Japan, and Vol. IV. to China. The present volume, devoted to the East Indies, is the last of the series. The assiduous task is now completed, but the compilers of the work must turn their attention to its revision, the need of which is already urgently felt, now that several years have elapsed since the publication of the first volume.

In including the East Indies within the scope of this guide-book, a few words of justification are necessary. Some may question the propriety of regarding the East Indies as belonging to what is vaguely called 'The Far East' or 'Eastern Asia.' The term as used here is probably interpreted a little more comprehensively than seems justified by its general usage; but in actual situation these islands are so closely related, both geographically and commercially, with China and Japan, that without them the contents of a would-be comprehensive guide-book for Eastern Asia will be found notoriously incomplete. These volumes are intended to be a pioneer work in this field, and in point of fact they constitute the only one ever published for this wide area.

It must also be noted that our original plan was to deal with the East Indies as a supplement to Vol. IV. devoted to China; but, as stated in the preface to that volume, the material dealing with China Proper was so great, that we found it no easy task to compress it within a single volume. We then saw the necessity for a separate volume on the East Indies, and, in preparing the present volume, it became evident that even a separate volume was by no means too spacious to cover adequately the whole material collected by our staff of investigators. For the sake of brevity, much of it had to be shortened, contrary to our original intention.

The collecting of the material dealing with the East Indies was begun as early as 1908, under the direction of Shingo Mikami, Secretary to the Imperial Government Railways of Japan, who visited these islands personally, in order to obtain the necessary information at first hand. Seven years later, that is a year before the publication of this volume, Yusuke Tsurumi, Secretary and Editor-in-Chief, accompanied by an assistant, was sent there to take note of the many changed and new conditions that had arisen in the interval. The present volume embodies the results of these investigations. In placing it before the public, we are confident that it will be recognized for what it is intended—as the only comprehensive guide-book for these widely scattered and greatly diversified Islands of Oceania. We wish, however, to state that the material has been obtained under difficult conditions, owing to the European War, and, in spite of our careful attention, we may have committed some errors and omissions. These, if found, will be corrected in later editions. The reader will, therefore, render us a valuable service by supplying us with any fresh information or with the corrections of any errors that may have come under his notice.

In conclusion, we wish to thank the various authorities of the East Indies, especially of the Philippines and Java, who courteously received our staff of investigators and supplied them with much valuable information.

Tōkyo, April 1917

C8 755

CONTENTS

INTRODUCTORY REMARKS

Communications with the East Indies

PAGE

Chapter I. Outline of Europe-Asia Communications XXI

I. The Trans-Continental (Trans-Siberian) Route . XXI
II. The Suez Route XXIII
III. The Route via North America XXIV
IV. Australian and South Sea Route XXV

Chapter II. Routes at Hongkong XXVI

(1) Connections at Hongkong XXVI
(2) Connections at Singapore. XXVII
(3) Connections at Ports of the Dutch East Indies . XXVII

PART I. PHILIPPINE ILSANDS

Chapter I. Preliminary Information 1
I. Arrival at the Philippines. 1
II. Custom-House 2
III. Itinerary Plans 2
IV. Climate and Time of Visit 3
V. Hotels and Restaurants 3
VI. Money, Weights, and Measures 4
VII. Guides 5
Holidays in the Philippines 5
Chapter II. Means of Communication. 6
I. Roads 6
II. Railways 6
III. Philippines Interisland Navigation 7
Launch Schedules (T.R. Yangco, Manila) . . 8
China Navigation Co.'s Weekly Service . . . 8
IV. Other Means of Communication 9
Automobiles, Carriages, Horses, Boats . . . 9
Chapter III. Post, Telegraph, and Telephone 10
Chapter IV. The Land and the Inhabitants. 11
Land 11
Forests, Grass-lands, Cultivated Lands. . . . 11
Physical Features, Mountain System 12
Rivers, Lakes 13
Inhabitants 14
Christian Tribes 15
Non-Christian Tribes 15
Negritos, Moros 15
Igorots, Ifugaos, Kalingas 16
Chapter V. History 17
Chapter VI. Political Organization. 20
Chapter VII. Religion and Education. 22
Chapter VIII. Customs, Habits, and Language 23
Chapter IX. Agriculture and other Industries 24
Agriculture 25
Cattle and Wild Game 28

PAGE

Fishery 28
Forestry Products 29
Mining Industry 30
Manufacturing Industries. 30

Chapter X. Trade 31
Foreign Trade 31
Domestic Trade 32

Route I. Manila
Approach to Manila 33
Hotels and Restaurants, Consulates. 33
Newspapers and Magazines 34
Situation 34
General Description of Manila 34
City's Districts 35
History, Climate 36
Hygienic Conditions, Hospitals 37
Trade Organizations, Banks 37
Games and Sports, Theatres and Cinematographs. 38
Street Tramway 39
Sights in the City 40
Intramuros or the Walled City 40
Districts S. of the Pasig. 46
Districts N. of the Pasig 51

Route II. Environs of Manila 55
(A) Manila Bay, Mt. Mariveles, Subic Bay, and Olongapo 55
(B) From Manila to Montalbán 55
Fort William McKinley 56
Pasig, Rozario, and Montalbán 57
(C) From Montalbán to Antipolo 57
Antipolo 58

Route III. From Manila to San Fernando, the Manila-North Line 59
Sibul Springs 59
Dagupan, Mangaldan. 61

Route IV. Baguio, and the Mountain Province, – Nueva Vizcaya 63
Baguio 64
The Mountain Province outside Baguio. . . . 67
From Baguio to Cervantes 68
From Tabio to Loó 69
From Tagudin to Cervantes. 70
From Cervantes to Bontoc 70
From Bontoc to Kiangan 71
From Kiangan to Nueva Vizcaya Province . . 72

Route V. Northern Luzon 74
Vigan, Laoag 74
Aparri 75

Route VI. Manila to Cavite, Pagsanjan, Batangas, and Lucena 77
(A) Manila to Cavite 77
Cavite 77
(B) Manila to Pagsanjan. 78
Los Baños. 79
Pagsanjan 80
(C) Manila to Batangas 81
(D) Manila to Lucena and Hondagua 82
Lucena 83

PAGE

Route VII. Southern Luzon and Mindoro Island 85
Albay, Legaspi 85
Mayon Volcano 86
Naga (or Nueva Cáceres) 87
Mindoro Island 88

Route VIII. The Vizayas and Palawan 89
Samar, Leyte 89
Cebu 90
Negros Island 92
Bacolod, Dumaguete 92
Iloilo 94
Capiz 97
Palawan Province 98
Puerto Princesa 98
Culion Island 98
Cuyo Islands 99

Route IX. Zamboanga and other places in Mindanao and Sulu 101
(A) Zamboanga 101
Hotels, Foreign Consulates, Government Offices, Curios, Clubs, Banks, Schools, Newspapers, and Churches 102
Climate, Population 103
Sights in the City and its Environs 104
Fort Pillar, Shrine of Pillar 105
The Drives 108
San Ramón Penae Farm 109
(B) Other Places in Mindanao and Sulu 111
Sulu Province 112
Cotabato, Davao, and Lanao Provinces . . 115
Lake Lanao 115
Bukidnon, Agusan, Surigao, and Misamis Provinces 116

PART II. FRENCH INDO-CHINA

PAGE

Chapter I. Preliminary Information 117
I. Steamer Connections with Foreign Countries 117
II. Passports and Customs 117
III. Climate and Time of Visit 117
IV. Itinerary Plans 118
V. Hotels and Restaurants 119
VI. Money, Weights and Measures; Travelling Expenses . . 119
VII. Language and Guides 120
VIII. Public Holidays and Festivals 121

Chapter II. General Remarks on French Indo-China . . . 121
I. Situation and Area 121
II. Topographical Sketch 121
III. Flora and Fauna 121
IV. Inhabitants 122
V. Political Organization 122
VI. Communications 123
Railways 123
Coastwise Navigation 124
Riverine Steamship Lines 124
Other Means of Conveyance 125
VII. Post, Telegraph, and Telephone 125

PAGE

VIII. Habits and Customs 128
IX. Religion and Education. 128
X. Industries and Trade 129
Industries 129
Stock-farming 129
Mining 130
Handicrafts and Manufactures 130
Trade 130

Route X. Hai-phong and Environs 131

Approach to Hai-phong 131
General Description of Hai-phong 131
Government Offices, etc. 132
Communications 133
Environs of Hai-phong. 134
Dô-son 134
Between Hai-phong and Mon-cay (by steamer) . . 134
Hongay 134
Along Bay (Baie d'Along) 135
Between Hai-phong and Phu-lang-thuong (by river) . 137
Sept-Pagodes 137
Between Hai-phong and Hanoi (by railway) . . . 137
Hai-duong 138
Cam-giang 138

Route XI. Hanoi City 139

Electric Tramways. 139
General Description of Hanoi. 140
History 141
Government Offices, etc. 143
L'Ecole Française d'Extrême-Orient. 143
Places of Interest 144
Museum. 144
Jardin Botanique (Botanical Garden) 145
Grand Bouddha 146
Le Petit Lac. 147
Environs of Hanoi 147
Communications. 148
Towns in the Neighbourhood of Hanoi 148
Ha-dong. 148

Route XII. Hanoi—Lao-kay—Yun-nan-fu (by railway) 149

Dông-anh 150
Between Dông-anh and Bac-kan 150
Vinh-yên 150
Cascade d'Argent 150
Viétri 151
Lao-kay. 152
Dragon Noir 153
Mong-tseu 153
Yun-nan City 154
General Description of the City 154
Places of Interest. 155

Route XIII. Hanoi—Lang-son—Nam-quan (by rail) 156

Bac-ninh 156
Dap-câu. 156
Phu-lang-thuong 157
Lang-nac 157
Lang-son 158
Cao-bang 159
Nam-quan 159

PAGE

Route XIV. Hanoi—Ninh-binh—Vinh—Ben-thuy (by rail) 160
Nam-dinh 160
Ninh-binh 161
Thanh-hoa 162
Vinh 162

Route XV. Northern Annam (Tourane, Hué, and Fai-foo) 163
Tourane City 163
General Description 163
Sights of Interest 164
Hué City 165
General Description 166
History 166
Sights of Interest 166
Tombs of Annamese Kings 166
Sights of the Castle 167
Sights of the Palace 168
Sights in the Environs 170
Tour de Confucius 170
Fai-foo City 171
History 171
Sights in its Environs 171
Qui-nhon 172

Route XVI. Saigon 173
General Description of the City 174
Trade 175
History 175
Principal Buildings 176
Consulates 177
Sights of Interest 178
Museum 178
Botanical Garden 179
Arsenal and Dock 179
Place de la Cathédrale 180
Places of Interest in the Environs 180
Excursion to Inspection 180
Means of Communication 180

Route XVII. Saigon—Bien-hoa—Nha-trang (by rail) 182
General Description of the Route 182
Between Saigon and Bien-hoa 182
Bien-hoa 182
The Rapids of Trian 183
Cap St. Jacques 183
Plateau du Lang-bian 184
Circular Tour Tickets 184
Sights along the Route 185
Phan-rang 187
Nha-trang 188

Route XVIII. Environs of Saigon and W. Cochin-China 189
Between Saigon and Tay-ninh 189
Tay-ninh 189
Between Saigon and My-tho 190
Cholon 190
General Description 190
My-tho 191
Western Lines 192
Sadec 192
Chau-doc 193
Cantho 193

PAGE

Route XIX. From Saigon to Angkor 195

Fares and other Expenses 195
From Saigon to Phnom-penh. 195
Phnom-penh City 196
General Description of the City . . . 196
Public Buildings 197
Places of Interest 198
The Palace of the King 198
Le Phnom 200
The Museum. 201
From Phnom-penh to Grand-Lac 201
Grand-Lac. 202

Route XX. The Ruins of Angkor 203

Time of Visit 203
Siem-reap 203
Hotel 203
Historical Sketch 204
Angkor-Vat. 206
General Description 206
The First Story 210
The Gates and Vestibules 210
The Gallery of the First Story . . . 210
The Bas-reliefs 210
The Second Story 211
The Small Edifices 211
The Passage 212
The Encircling Gallery 212
The Covered Court 213
Library 214
The Central Structure 215
The Foundation Ground and its Stairway. 215
Porches and Vestibules 215
The Galleries 215
The Decoration of the Galleries . . . 216
The Sanctuary 216
The Inner Court 216
The Towers 217
Angkor-Thom 217
General Description 217
Temple of Bayon 219
The First Story 219
The Second Story 220
The Third Story. 220
The Decoration of Bayon 221
The State of Ruin of Bayon 221
Temple of Baphuon 221
General Description 222
The First Story 222
The Second Story 223
The Third Story. 223
Phimeanakas 223
The Temple 224
Gopura-Oriental 225
Prah-Khan 225
The Monuments 226
Néak-Pean, Bantéai-Kedei, Ta-Prohm 227
Néak-Pean. 227
Bantéai-Kedei 227
Ta-Prohm 228
Other Monuments in the Vicinity of Angkor . . 230

PART III. SIAM

PAGE

Chapter I. Preliminary Information 231
I. Routes to Siam 231
II. Passports and Customs. 231
III. Language and Guides 231
IV. Currency, Weights and Measures, and Banks 232
V. Post, Telegraph, and Telephone 232
VI. Climate, Hygiene, and Time of Visit 233
Chapter II. General Remarks on Siam. 234
I. Geography 234
II. History 234
III. Administration 237
IV. Defense 237
V. Inhabitants 238
VI. Communications 238
Railways 238
Highways 239
Coastwise and Riverine Navigation 240
VII. Trade 240
VIII. Industries 240
Agriculture 241
Fishery 241
Forestry 241
Mining 242
IX. Religion 242
X. Education 244
XI. Customs and Manners 244
XII. Siamese Dress 246
XIII. Hair-dressing 247
XIV. Food and Drinks 247
XV. Houses 248
XVI. Amusements 249
XVII. Festivals 249
XVIII. Notable Products of Siam 251
Route XXI. (A) Bangkok and Environs 252
Approach to Bangkok 252
Means of Conveyance. 253
General Description of Bangkok. 253
Sights of Interest 254
The Royal Palace 254
Temples 254
Principal Establishments 257
(B) Trip into the Interior 258
1. Northern Regions 259
Ayuthia 259
Elephant Hunt 261
Korat 262
2. Coastal Regions 264
Siracha 264

PART IV. MALAY PENINSULA

PAGE

Chapter I. Preliminary Information 265
I. Approach to Malay Peninsula 265
II. Passports and Customs. 266
III. Climate and Time of Visit. 266
Travelling Outfit 267

PAGE

IV. Itinerary Plan 267
V. Hotels, Rest-Houses, etc. 268
VI. Currency, Banks, Weights and Measures 269
VII. Public and Bank Holiday 271
VIII. Language and Guides 271

Chapter II. General Remarks on the Peninsula 272

I. Geographical Sketch 272
The Land 272
Inhabitants 273
II. History 273
III. Administrative System 275
IV. Communications 276
Railway 276
V. Land Routes 277
VI. Water Routes 278
Scheduled Coasting Steamers 278
The Western Coast 278
The Eastern Coast 278
River Navigation 279
VII. Post and Telegraph 279
VIII. Foreign Trade 280
IX. Industry 282
Mining 282
X. Agriculture 284
History (rubber) 285
Acreage under Rubber 285
Lease of Land 285
Planting and Tapping 286
The Labourers on the Rubber Plantations 286
Coconut Cultivation 287
Copra 287
XI. Customs and Manners 287
XII. Education and Religion 288

Route XXII. Singapore 289

Means of Communication in the City 290
Consulates 293
Situation and Geographical Structure 296
Climate and Hygiene 298
Docks 299
General Description of Singapore 299
Places of Interest 304
Botanical Garden 304
Raffles Library and Museum 304
Reservoirs 305
Race-Course 305
Tanjong Katong 305
The Gap 305

Route XXIII. Singapore to Penang 306

General Description of the Route 306
Singapore—Gemas 306
The State of Johore 306
Gemas—Malacca—Kuala Lumpur 307
Malacca 307
The State of Malacca 308
Seremban to Kuala Pilah 310
The State of Selangor 310
Kuala Lumpur 311
General Description of the City 311
Experimental Station 313
Batu Caves 313

PAGE

Port Swettenham 313
Dusun Tua 314
Kuala Lumpur—Taiping 314
Kuala Kubu to Kuala Lipis 315
Kuala Kubu—Ipoh 315
Kinta Valley 316
Process of Tin Mining and Smelting . . . 316
Ipoh 316
Rock Temples 317
The State of Perak 317
Kuala Kangsar 318
River Trips on the Perak 319
Between Kuala Kangsar and Taiping 319
Taiping 320
The Park and Clubs 320
The State Museum 320
Larut Hills 321
Taiping—Penang 321
Gugop Valley 321
Krian Road 322
North of Krian Road 322
Province Wellesley 322
The State of Kedah 322

Route XXIV. Penang 323

General Description of Penang 323
History 324
Important Buildings 325
Walks and Resorts 326
Waterfall Garden 327
The Chinese Temple at Ayer Itam . . . 327

Route XXV. North Borneo 328

Approach to North Borneo 228
The Town of Sandakan 328
The Town of Jesselton 329
Jesselton—Weston—Tenom 329
The Town of Brunei 330
The Town of Kuching (Sarawak) 330

PART V. THE DUTCH EAST INDIES

Chapter I. Preliminary Information 331

I. Routes to the Dutch Indies 331
II. Passports and Customs 331
III. Plan of Tour 332
IV. Climate and Time of Visit 334
V. Sanitary Conditions 335
VI. Hotels 335
Telegraphic Code for the Hotels in Java . . . 336
VII. Currency, Weights and Measures 336
VIII. Language and Guides 337
Hours of Business and Calling 339
Railways 339
Important Lines 340
Regulations of the State Railways of Java . . . 341
Roads 342
Coastal and Riverine Communications 342
Other Means of Communication 344
Post, Telegraph, and Telephone 344

Chapter II. General Remarks on the Dutch East Indies . 347

Land 347
Java 348

PAGE

Important Mountains 348
Ports 348
Volcanoes and Hot Springs 349
Rivers 349
Sumatra Island 349
Mountains 350
Rivers 350
Lakes 350
Borneo 350
Mountain Ridges 350
Rivers 351
Celebes 351
Mountain Ridges 351
Rivers 351
Lakes 351
Plains 352
Inhabitants 352
The Natives 352
Foreign Inhabitants 353
Fauna and Flora 354
Administrative System 358
History 360
Customs and Manners 362
Houses 363
Food and Drink 364
Religion and Education 365
Industry and Commerce 367
Agricultural and Forestry Products 368
Mining Industry 373
Manufacturing Industry 373
Foreign Trade 374

Route XXVI. Batavia and Environs 375

Approach to Batavia 375
General Description of the City 377
History 378
Means of Communication 382
Railway 382
Steam Tramway 383
Electric Trams 383
Plains for Drives 384
Sights of Interest 385
In Weltevreden 385
The Lower Town 389
Environs of Batavia 391
Tandjong Priok 391
Meester Cornelis 392
Tangerang 392
Batavia—Laboean—Serang 392
Karakatau 393

Route XXVII. Batavia to Bandoeng 394

(A) Batavia to Bandoeng, via Tjikampek 394
(B) Batavia to Bandoeng, via Buitenzorg 394
Buitenzorg 395
General Description of the City 395
The Botanical Garden 396
History 396
General Description of the Garden 396
A Walk through the Garden 396
The Experimental Stations 404
Hill Garden 404
Places of Interest in the Vicinity of the City . . 404

PAGE

Kota Batoe 404
Batoe Toelis 405
Mt. Salak 405
Telaga Warna and Sindanglaja 406
Soekaboemi 406
Ngalindoeng 407
The Falls of the Tjibeureum 407
Wynkoopsbay 407
Tjiandjoer 407
Sindanglaja (side trip) 408
Places of Interest in the Vicinity 408
Telaga Warna 408
Tjipanas 408
Goenoeng Kasoer 410
The Falls of the Tjibeureum 410
Mt. Gede 410
Bandoeng 412
General Description of the City 412
Places of Interest in the Vicinity 412
Tangkoeban Prahoe 413
Mt. Wajang 413

Route XXVIII. Bandoeng to Soerabaja 414

(A) Bandoeng to Tjibatoe and Garoet 414
Garoet 414
General Description of the City 415
Places of Interest in the Vicinity 415
Tjipanas 415
Lake of Bagendit 416
Lake of Leles 416
Kawah Manoek 417
Papandajan 417
Telaga Bodas 418
(B) Tjibatoe to Djokjakarta 419
Mt. Galoenggoeng 419
Maos 420
Tjilatjap 420
Djokjakarta 420
Itinerary Plan 423
Places of Interest 423
The Palace of the Sultan 423
The Water Castle 424
(C) Djokjakarta to Soerabaja 426
The Ruins of Brambanan 426
Tjandi Loro Djonggrang 426
Tjandi Sewoe 429
Soerakarta or Solo 430
General Description of the City 430
The Kraton (Palace) of the Soesoehunan . . . 431
(D) Soerakarta to Soerabaja 433
Madioen 433
Modjokerto 433

Route XXIX. Soerabaja 434

Means of Communication 435
General Description of the City 436
Plan of Sight-seeing Tour 437
Places of Interest in the Vicinity 439
Grisee 439
The Land of Madoera 439

Route XXX. Boroboedoer and Dieng Plateau 440

Boroboedoer and Mendoet 440
Tjandi Mendoet 440

PAGE

Tjandi Pawon 441
Tjandi Boroboedoer 442
Magelang 445
Dieng Plateau 443
Dieng 446
Mt. Merbaboe 447
Ambarawa 447

Route XXXI. Northern Coast Line 448

General Remarks 448
Sailing from Batavia 448
Batavia to Cheribon 449
Cheribon. 449
Pekalongan 450
Semarang 450
General Description of the City 451
Places of Interest in the Vicinity 452
Semarang to Soerabaja. 453

Route XXXII. Eastern Part of Java 455

Mt. Keloet, Mt. Kawi, Ardjoeno Mountains . . . 455
General Remarks 455
Volcanic Lake of Mt. Keloet. 455
Malang to Mt. Kawi and its Vicinity 456
Malang 456
Wendit 456
Singosari 456
Toempang 457
Mt. Kawi and its Vicinity. 457
Djoban Rondo 457
Ngantang 457
Mt. Darawati 458
Lawang and its Vicinity 458
The Ardjoeno Mountain Resorts. 458
Prigen and Tretes 458
Trawas 459
Mt. Welirang 459
Tosari and Its Neighbourhood 460
To Tosari via Lawang 460
Soerabaja to Pasoeroean 462
Pasoeroean to Tosari 463
Tosari 464
Places of Interest in the Vicinity 465
Tosari to Mt. Bromo 466
Tosari to Mt. Smeroe. 468
Klakah and Idjen Plateau 470
Lake Klakah 470
To Idjen Plateau via Banjoewangi 471
Idjen Plateau 471

Route XXXIII. Bali and Lombok 473

Means of Access 473
General Remarks 473
Bali Island 474
Boeleleng 474
Lombok Island 478

Route XXXIV. Sumatra 479

The Eastern Coast 479
Palembang 479
Medan 480
Excursion to Lake Toba 482
Sabang 483
Atjeh 484

PAGE
The Western Coast 484
Padang and Padang Highlands 485
Places of Interest in the Vicinity 486
(A) Padang to Pajokoemboeh 486
Fort de Kock 487
Pajokoemboeh 489
Fort van der Capellen 491
(B) Fort van der Capellen to Sawahloento 491
The Oembilin Coal Mines 492
Route XXXV. Dutch Borneo 493
Bandjermasin 493
Balik Papan. 494
Samarinda 495
Pontianak 495
Route XXXVI. Celebes 497
Makassar 497
Makassar to Menado and Gorontalo 499
Donggala 499
Menado 500
Minahassa 502
Gorontalo 503
Lake of Limbotto. 504

Maps & Plans.

PAGE
1. General Map of the East Indies (1: 7,200,000) In Pocket of Cover
2. Map, showing the Sea Routes (1 : 40,000,000) . Facing XXI
3. Manila (1 : 30,000) 33
4. Environs of Manila (1 : 800,000) 55
5. Baguio (1 : 30,000) 63
6. Zamboanga 100
7. Hai-phong (1 : 30,000) 131
8. Hanoi (1 : 25,000) 139
9. Hué 165
10. Saigon (1 : 25,000) 173
11. Lang-Bian and Environs (1 : 1,500,000) 183
12. Environs of Angkor (1 : 300,000) 195
13. Plan of Angkor 204
14. Angkor-Vat 208
15. Bangkok (1 : 40,000) 251
16. Singapore (1 : 25,000) 289
17. Kaula Lumpur (1 : 30,000) 311
18. Penang (1 : 30,000) 323
19. General Map of Java with Bali (1 : 3,600,000) . . . 331
20. Batavia (1 : 30,000) 375
21. Botanical Garden, Buitenzorg (1 : 12,000) 395
22. Environs of Garoet. 414
23. Soerabaja (1 : 40,000) 433
24. Semarang (1 : 40,000) 449
25. Environs of Tosari and Malang (1 : 500,000) . . . 455
26. Environs of Padang (1 : 900,000). 485

List of Illustrations.

	PAGE
Palm Avenue in the Philippines	Facing 1
Typical Cart drawn by Three Carabaos	1
Embroidery Pupil, Normal School	4
Dancing Igorot Baby Nurse	9
A Negrito Hut	14
Teacher and Students at Normal School	17
Filipino Girls	21
A Bicol Girl stripping Hemp	24
Opening Coconuts for Drying	27
Native Milk Peddlers	32
A Monument of King Charles IV.	38
Cathedral of the Immaculate Conception	42
Burial Niches in the Paco Cemetery	48
An Avenue of Trees in the Suburbs, Manila	53
Ruins of the Great Convent of Guadalupe	56
A View of Lingayen Street	60
The Zigzag Road of Baguio	65
Bridge across the Rio Chico	71
Baruyan River, Bangui, Ilocos Norte	75
Animals in the Street, Santa Ana	78
Botocan Falls	80
Mayon Volcano	84
A Steep Slope of Mayon Volcano	86
The Church of Cabatuan, Iloilo Province	91
Limestone Cave, Dumalag, Capiz	96
The Canal and the Old Fort, Zamboanga	102
Boobies in Flight and Settled Tubbataja Reef, Sulu Sea	107
Main Gate of the Town of Jolo, Sulu	112
Mandaya, armed with Spear and Shield, Moro Province	114
Southern Façade of Central Portico, Angkor-Vat	Facing 117
Elephants paying Respect before the Palace	120
A Native Wheel-Barrow, Tongking	127
The 'Chandler,' Baie d'Along	135
View of Petit-Lac in the Middle of Hanoi City	139
Botanical Garden, Hanoi	142
Entrance of the 'Temple des Deux Dames', Hanoi	146
General View of Laokay and Ho-kéou	152
The Market outside the Wall of Yun-nan-fu	154
Mountain Tribes of the Region of Cao-bang	158
Returning from Tiger-Hunting, Than-hoa	161
The Marble Grottos, Tourane	163
Decorative Gateway to the 'Palais du Comat', Hué.	167
Bronze Urns in the Front Court of the Palace, Hué.	169
Botanical Garden, Saigon	173
The 'Ceremony of the Dragon', Cochin-China	176
Fishing Scene in the Mekong	179
The Sea off Phan-rang	186

PAGE
The Harbour of Mytho 191
The Vat-Nokor Road 194
Pagoda of Phnom-penh 200
Terrace before the Entrance to Angkor-Vat 206
Corner Porticos and Galleries, Angkor-Vat 209
Cruciform Gallery, Angkor-Vat 212
Staircase to the Central Tower, Angkor-Vat 214
Towers with Four Faces, Bayon 218
Elephants on the Walls of the Terrace, Angkor-Thom. . . . 223
The Decoration of the Outer Wall, Prah-Khan 226
Starting on a Sight-seeing Tour . . . . . Facing 231
A Siamese, Yellow-robed Monk 245
Typical House in Siam 248
Bangkok Harbour 252
Distant View of Wat Sa Ket, Bangkok 255
The Temple 'Wat Chang,' Bangkok 256
The Market of Ayuthia 260
Connaught Drive, Singapore . . . . . Facing 265
Some Hindoos in Singapore 271
Malay Children 274
A Street Scene, Singapore 277
A 'Satai' Seller, Singapore 281
Tapping Rubber Trees 284
Raffles Library and Museum, Singapore 289
Raffles Plain, Singapore 291
St. Andrew's Cathedral, Singapore 294
Cavenagh Bridge, Singapore 297
A Malay Temple 300
Native Houses 312
Elephants awaiting Shipment 318
Waterfall Garden, Penang 323
The Chinese Temple of Ayer Itam, Penang 326
Victoria Regia, Botanical Garden, Buitenzorg . . . . Facing 331
Batik Industry 339
Threshing Rice 345
A Market Scene in Java 356
Cacao Plantation 369
Chinese Quarter, Batavia 382
An Important Industry of Tangerang 387
Natives Washing by the River 393
Victoria Regia, Botanical Garden, Buitenzorg 397
Waringin by the Pond, Botanical Garden, Buitenzorg 400
A Thick Clump of Bamboos, Buitenzorg 403
Lake of Bagendit, Garoet 416
Palace of the Sultan, Djokjakarta 420
Water Castle, Djokjakarta 423
Brambanan Temple 426
Tjandi Boroboedoer . . . . . Facing 440

PAGE
A Scene of Rice Harvest 454
Mt. Bromo 461
A Distant View of Mt. Smeroe. 466
Lake Klakah 471
Natives of Bali Island 475
Typical Native House in Sumatra. 481
Street Scene of Fort de Kock, Padang Highland 487
Harbour of Gorontalo, Celebes. 501

Abbreviations.

Av.=avoirdupois; C.=Celsius, centavo, centime, cape; Cl.=class; cm.=centimetre; dm.=decimetre; E.=east; Fahr.=Fahrenheit; *fl.*=florin *or* guilder; F.M.S.=Federated Malay States; fr. *or* frs=franc *or* francs; ft.=foot *or* feet; G.=Gang (i.e. way), Goenoeng (i.e. mountain); Gen.=general; gr. *or* grs=gram *or* grams; hr. *or* hrs.=hour *or* hours; in.=inch *or* inches; Is.=island *or* islands; kg. *or* kgs=kilogram *or* kilograms; km.=kilometre; L.=lake, lagoon; lat.=latitude; lb.=pound *or* pounds; Leg.=legation; long.=longitude; m.=mile *or* metre; Mex.=Mexican; M.F.Co.=Compagnie des Messageries fluviales; min.=minutes; M.M.=Messageries Maritimes; m.m.=millimeter; Mt. *or* Mts.=mount *or* mounts; N.=north; N.D.L.=Norddeutcher Lloyd; N.I.S. Ry.=Dutch East Indies Ry.; N.K.K.=Nissin Kisen Kaisha; N.Y.K.=Nippon Yusen Kaisha; ₱=peso; P *or* Pp=page *or* pages; P. & O.S.N. Co.=Peninsular and Oriental Steam Navigation Company; Pl.=plan; P.M.O.=postal money order; Pop.=population; Pt.=Point; R.=River; Rd.=road; Ry.=railway, S.=south; S.C.S.=Semarang-Cheribon Railway Co.; sq. km.=square kilometre *or* kilometres; sq. m.=square mile *or* miles; S. S. Co.=steamship company; S. S. Ry.=state railway; St.=station, street; Sta.=Santa; Str.=street; Tel.=telegraph *or* telephone; T.K.K.=Tōyō Kisen Kaisha; W.=west; yd. *or* yds.=yard *or* yards.

MAP SHOWING THE SEA ROUTES

Japan Possessions
British ,,
French ,,
United Stats Possessions
Dutch ,,
Portuguese ,,

Scale 1: 40,000,000

Japanese Ri
English Miles
Kilometres

INTRODUCTORY REMARKS.

Communications with the East Indies.

Chapter I. Outline of Europe-Asia Communications.

The routes of communication between the European states and the Asiatic continent have been minutely dealt with in Vol. I of the present series of Guide-Books (Manchuria and Chōsen), taking London, the English capital, as a starting-point and Shanghai and Tōkyo as destinations. This description, therefore, will concern itself with Far Eastern routes of communication, centring at Hongkong and Singapore, which are the cardinal points of the East Indies. Further, with those lines which have been temporarily altered or suspended, on account of the European war, it must be said that the data given are those of normal conditions in time of peace, with such additional description as present circumstances may necessitate.

The principal routes are as follows:—1. The Trans-Continental (Trans-Siberian) Route. 2. The Route via Suez. 3. The Route via North America.

Of all these, the route which ensures the greatest comparative economy of time and money, yet which at the same time affords facilities for viewing Manchuria, China, and Japan, is the Trans-Continental Route. By this route, only 18 days at most are required between London and Hongkong (London to Shanghai, 2 weeks; Shanghai to Hongkong, from 3 to 4 days). From London to Saigon requires about 21 days (from Hongkong to Saigon, from 4 to 5 days); to Singapore, 22 days (from Hongkong to Singapore from 5 to 6 days).

If London be the starting-point and Singapore the destination, the number of days required by the 1st and 2nd routes is nearly the same.

The second and third routes are for the most part by sea. The second, via Suez, from London to Singapore requires from 21 to 22 days. The third, which crosses the North American Continent, requires the greatest time and expense, the minimum time required for reaching Singapore from London by this route being 40 days.

Choice of Route. The choice of route will naturally depend upon the travellers' own plans, and on what they wish to accomplish on the way to the East Indies; the descriptions of ways to reach the latter constitute the principal matter of the present chapter. Those who wish to visit America on the way will necessarily select the 3rd route; otherwise, the 1st and 2nd routes will serve as well. As the two routes do not differ greatly with respect to time and cost, it will add considerably to the interest of the journey to choose one in going and the other in returning, thus circumnavigating the globe.

I. The Trans-Continental (Trans-Siberian) Route.

Europe-Asia Railway System. The great railway line crossing Siberia and Manchuria is of the first importance in closely connecting

Eastern Asia and Western Europe. There is a through train service, and express trains, with complete accommodation, run several times a week. Through trains run from the Russian capital, Petrograd, and Moscow to Vladivostok and Changchun, from which points one proceeds by steamers or express trains, to Japan, Manchuria, Korea, and China. Between the principal cities of Europe and Petrograd or Moscow, there run numbers of trains connecting with various lines. Since through tickets are issued between London, Paris, Berlin, etc., and the principal centres of Manchuria, China, and Japan, travellers should ensure connection by choosing routes convenient to them. If one reaches Europe from Canada, or the United States, via the Atlantic, en route to Eastern Asia by way of Petrograd or Moscow, one will be able to save 3 to 4 days over the all-sea route. The connections for Eastern Asia divide at Harbin, one route leading to Vladivostok, whence Tsuruga is reached by steamer, and the other to Fengtien, via Changchun. The latter splits into three: (1) via Antung and Keijō (Seoul) to Fusan, where one takes steamer to Shimonoseki (or Moji), (2) that which leads to Dairen, from which point one proceeds either to Nagasaki or to Shanghai by sea, and (3) via Yingkou and Tientsin to Peking or, diverging at Tientsin, to Shanghai. From Yokohama, Kōbe, Nagasaki, and Shimonoseki in Japan, and from Shanghai, so many ships sail for Hongkong, Singapore, and other southern points, that great facilities are offered to travellers.

However, the passage through Germany being impossible during the European war, the route between the countries of Western Europe and Petrograd or Moscow is at present entirely suspended, and the journey from London or Paris is possible only by a roundabout trip through Sweden, by way of London, Newcastle, Bergen, Christiania, Hallsberg, Krylbo, Haparanda, Tornea, and Petrograd. (In case Stockholm is included in one's itinerary, Christiania may be reached via Stockholm from Haparanda.) The route above mentioned will require from 19 to 20 days from London to Tōkyo.

Europe-Asia Through Trains. Mail Trains.—One through train starts daily from each end, that coming eastward starting in two sections, from Petrograd and Moscow respectively, and combining at Cheliabinsk, to separate again into two parts at Harbin, one going to Dairen and the other to Vladivostok. The train from Asia to Europe follows the same procedure, starting in two sections and running as a single train from Harbin to Cheliabinsk.

Comparing the train in question with the express, the former is seen to be comparatively slow, but it may be advantageous for those travellers, who do not find it necessary to proceed by express, or whose object is sight-seeing on the way, to choose the former, which is the less expensive of the two.

Express Trains.—An express train leaves each terminal three times a week. Of those coming eastward, one of the three starts from Petrograd and the other two from Moscow. Each, upon reaching Irkutsk, via Cheliabinsk, meets the train coming westward, and there passengers and luggage are exchanged, and each train returns over the route by which it has come.

Rates.—Cost of train fare, sleeping berth, and food.

	1st class	2nd class
London (via Ostend) to Shanghai (via Dairen)	£ 57 17 6	£ 40 6 7
,, Tokyo (via Fusan, Chōsen)	£ 60 19 5	£ 42 4 5
,, ,, (,, Vladivostok)	£ 59 2 0	£ 39 4 3
,, ,, (,, Dairen)	£ 60 0 1	£ 41 1 1

The above is merely a rough estimate; rates vary more or less according to points of departure and destination, route, and class of train.

II. The Suez Route.

General Outline. The present route, which connects the ports of Western Europe with those of China and Japan, leads via the Mediterranean, the Red Sea, and the Indian Ocean, to Colombo (from which point the route for Australia diverges), and thence to Japanese ports by way of Singapore, Hongkong, and Shanghai. The most interesting places on the way are in the Western Mediterranean and the East Indian Ocean (especially Egypt and India). The principal steamship companies which maintain a regular service on this route are:

(1) *The Messageries Maritimes Co.'s Service* (M. M. Co.).—Service once every other week, with Marseilles as port of departure. Its vessels en route to Yokohama call at Port Said, Suez, Jibuti. Colombo, Singapore, Saigon, Hongkong, Shanghai, and Kōbe.

Length of voyage and fares. London to Singapore: 25 days; 1st cl., £ 66; 2nd cl., £ 44. London to Hongkong (Shanghai and Yokohama): 31 days; 1st cl., £ 71 8 s.; 2nd cl., £ 48 4 s. London to Saigon (Bangkok): 1st cl., £ 71 15 2; 2nd cl., £ 48 12 11. London to Australian ports: 1st cl., £ 82 12 s.; 2nd cl., £ 46 4 s.

There is complete railway connection from London and Paris to Marseilles, and through tickets, including steamer and railway fares, are issued. Moreover, this company makes a special feature of the stop at the port of Saigon, so that travellers for Tongking and Annam in French Indo-China find its vessels alone available for connection for these places.

(2) *The Peninsular and Oriental Steam Navigation Company's Service* (P. & O. Co.). Service once every other week. Its vessels ply between London and Yokohama, having as ports of call: Plymouth, Gibraltar, Marseilles (to which point there is railway connection from London), Malta (every other trip), Port Said (London—Brindisi, railway connection; Brindisi—Port Said, steamship connection), Aden, Colombo (steamship connection with Bombay), Penang, Singapore, Hongkong, Shanghai, Nagasaki, and Kōbe. On this line, communication between London and Colombo is effected by Australian Mail Steamers, and, as these ships diverge at the latter point for Australia, travellers for Oriental countries must change here for the Indo-China Mail Steamers, and at Shanghai again for local steamers.

Length of voyage and fares. London to Singapore: 22 days; 1st cl. (varying according to the position of cabin, the same applying to the cases to be mentioned hereafter), £ 60—66; (via Brindisi, 1st cl., £ 71 10 5); 2nd cl., £ 40-44. London to Hongkong (Shanghai, Japanese ports, and Manila): 1st cl., £ 64-70 (via Brindisi, £ 75 10 5); 2nd cl., £ 44-48. London to Australian ports: 1st cl., £ 70-82 (via Brindisi, £ 87 10 5); 2nd cl., £ 42-46.

(3) *Norddeutscher Lloyd Co.'s Mail Service* (N. D. L. Co.). Service once every other week. Hamburg and Bremen alternately ports of departure; terminus, Yokohama. Ports of call: Antwerp, Southampton, (railway connection from London), Gibraltar, Algiers, Genoa (special train connection with Paris and London), Naples (special train connection with Berlin and London), Suez, Aden, Colombo, Penang, Singapore, Hongkong, Shanghai, Nagasaki, and Kōbe.

Length of voyage and fares. London to Singapore: 24 days; 1st cl., £ 60; 2nd cl., £ 40. London to Hongkong (Shanghai, and Japanese ports): 30 days: 1st cl., 65; 2nd cl., £ 44. London to Australian ports: 1st cl., £ 65–75; 2nd cl., £ 38–42.

Note: The line in question, being under the management of Germany, is suspended during the war, and it is doubtful whether it will resume the former service.

(4) *Nippon Yusen Kaisha Co.'s Mail Service* (N. Y. K. Co.). Service once every other week, between Yokohama and London. Ports of call: Marseilles, Port Said, Suez, Colombo, Penang, Singapore, Honkong, Shanghai, Moji, and Kōbe.

(During the war, however, navigation in the Mediterranean Sea being dangerous, the route via Cape Town is used, which adds about a week to the time required for the journey; and the ports of call, W. of Singapore, are: Malacca, Penang, Colombo, Cape Town, and London).

Length of voyage and fares. London to Singapore: 47 days; 1st cl., £ 60; 2nd cl., £ 40. London to Hongkong (Shanghai, and Japanese ports): 53 days; 1st cl., £ 65; 2nd cl., £ 43.

(5) *Nederland Royal Mail Line's Service.* Service once every other week, from Amsterdam to Batavia (Java). Ports of call: Southampton, Genoa, Port Said, Sabang, Singapore, Batavia.

Length of voyage and fares. Amsterdam (Rotterdam) to Batavia: 34 days; 1st cl., fl. 950; 2nd cl., fl. 585. Up to Soerabaja: 1st cl., fl. 980; 2nd cl., fl. 620.

(6) *Rotterdam Lloyd Co.'s Service.* Service fortnightly, from Rotterdam to Batavia. Ports of call: Southampton, Marseilles, Port Said, Padang, Batavia. Length of voyage and fares the same as above. During the war, however, the route via Cape Town is used.

III. The Route via North America.

General Outline. The route connecting Europe and Asia via North America may be divided into the following three sections: The Trans-Atlantic, the North American Overland, and the Trans-Pacific. Since in each of these sections there is a choice between several lines, not a few facilities are enjoyed by travellers. Of all the Trans-Continental lines of North America, the most convenient lies through New York. If this route is taken, Yokohama may be reached from London in from 26 to 28 days.

(a) ***The Trans-Atlantic Route.*** *From British Ports:* Liverpool to Canadian ports, New York, and Boston. Glasgow to Canada, Boston, and New York. Bristol to Canada. Southampton to New York. London to New York. *From European Ports:* Hamburg, Bremen, Havre, Antwerp, Rotterdam, Genoa, and Naples to New York. By this route, New York (or Canadian ports) may be reached from London in 5½ or 6 days.

(b) ***The North American Overland Routes.*** The Trans-Continental Railways of North America may be classified as follows: (1) Northern Route (Canadian Pacific Railway System). Montreal (connected either by train or steamer with Quebec)—Vancouver. (4½ to 5 days). (2) Middle Route—Eastern Section (New York Central Railway and Pennsylvania Railway): between New York (or Boston) and Chicago (or St. Louis). Western Section (Great Northern and North Pacific Railway System; Union Pacific Overland System; Atchison, Topeka & Santa Fe System): between Chicago (or St. Louis) and the Pacific coast (Seattle, Tacoma, Portland, San Francisco). By this route from 4 to 5½ days are required to cross the Continent. (3) Southern Route (Washington and Sunset Route)—Eastern Section: between New York (or Washington) and New Orleans. Western Section: between New Orleans and San Francisco. This route requires from 5½ to 6 days.

(c) ***The Trans-Pacific Routes.*** These routes connect the ports on the western coast of North America and Canada with the Orient. Some take in the Hawaiian Islands. The following are the principal steamship companies on these routes:

(1) *Canadian Pacific Ocean Services.* Vancouver to Hongkong; service once in every two or three weeks. Ports of call; Yokohama, Kōbe, Nagasaki, and Shanghai.

Length of voyage and fares. London to Hongkong: 34 days; 1st cl., £ 71 10 s.; 2nd cl., £ 39.

(2) *Tōyō Kisen Kaisha and Pacific Mail S. S. Co.'s Services.* San Francisco to Hongkong; service once every other week. Ports of call; Honolulu (Hawaii), Yokohama, Kōbe, Nagasaki, Shanghai, Manila (calling on every other trip). London to Hongkong: 37 days; fares the same as above.

(3) *Nippon Yusen Kaisha Co.'s Service.* Seattle to Hongkong: service every other week. Ports of call: Victoria, Yokohama, Kōbe, and Shanghai.

London to Hongkong: 41 days; fares: 1st cl., £ 60 13 s.; 2nd cl., £ 39 12 s.

(4) *Ōsaka Shōsen Kaisha Co.'s Service.* Tacoma to Hongkong. Service every other week. Ports of call: Yokohama, Kōbe, Moji (every other trip), Nagasaki (every other trip), Shanghai (every other trip), Manila (every other trip).

IV. Australian and South Sea Route.

(1) *Nippon Yusen Kaisha Co.'s Australian Service.* Yokohama to Melbourne. Service once every 4 weeks. Ports of call: Kōbe, Nagasaki, Hongkong, Manila, Zamboanga, Thursday Island, Townsville, Brisbane, and Sydney.

Length of voyage and fares. Yokohama to Manila: 14 days; 1st cl., ¥130; 2nd cl., ¥78. Yokohama to Melbourne: 37 days; 1st cl., £ 48; 2nd cl., £ 30 10 s.

(2) *Australian Oriental Line's Service.* Hongkong to Melbourne. Service once every four weeks. Ports of call: Manila, Zamboanga, Port Darwin, Thursday Island, Townsville, Brisbane, and Sydney.

(3) *Eastern and Australian Steamship Co.'s Service.* Kōbe to Melbourne. Service once every four weeks. Ports of call: Moji, Hongkong, Manila, Port Darwin, Thursday Island, Brisbane, and Sydney.

(4) *China Navigation Co.'s Service.* Kōbe to New Zealand. Service once every month. Ports of call: Hongkong, Manila, Townsville, Brisbane, and Sydney.

(5) *Royal Packet Navigation Co.'s Service.* Batavia to Melbourne. Service once every four weeks. Ports of call: Semarang, Soerabaja, Port Moresby, Brisbane, and Sydney.

(6) *Burns Philp S. N. Co.'s Service.* Singapore to Sydney. Service once every month. Ports of call: Batavia, Semarang, Soerabaja, Port Darwin, Thursday Island, Townsville, and Brisbane.

(7) *Ōsaka Shōsen Kaisha Co.'s Java Service.* Keelung to Batavia. Service once every four weeks. There are two lines—the East-bound Line and West-bound Line which are taken alternately. Principal ports of call: Hongkong, Manila, Sandakan, Makassar, Soerabaja, and Singapore.

(8) *Nanyō Yusen Kaisha's Service.* Kōbe to Soerabaja. Service once every month. Ports of call, (outward voyage), Moji, Keelung, Hongkong, Singapore, Batavia, and Soerabaja; (homeward voyage), Soerabaja, Makassar, Balik-Papan, Hongkong, Moji, and Kōbe.

Chapter II. Routes to the East Indies.

A general outline of the communications between Eastern Asia, the countries of Western Europe, the North American Continent, and Australia, has been given in the previous chapter. In the present chapter will be given in detail the connections at Hongkong, which is the point of departure for ships proceeding to the Philippine Islands and to French Indo-China (Tongking), and at Singapore, which is the point of departure for vessels bound to the Dutch East Indies, Siam, and French Indo-China (Cochin-China). The routes, however, between the several islands of the East Indian Archipelago, and between this group and the Malay Peninsula, are very complicated, and, since they are all under the management of the Royal Packet N. Co., a separate section will be devoted to them.

(1) *Connections at Hongkong.*

(a) Hongkong to Manila and *vice versa*. (1) The China Navigation Co. Sailings from each terminus once every week; vessels call at Cebu and Iloilo. Length of voyage, 3 days. Fares: to Manila, 1st cl., single, $45; return (good for 6 months), $70; to Cebu and Iloilo, 1st cl., single, $70; return, $120. (2) Indo-China S. N. Co. Sailings once every week from each terminus. Length of voyage and fares are the same as above.

The above-mentioned are the only regular weekly services between Hongkong and Manila, but there are many others in addition. The Nippon Yusen Kaisha has sailings once every 4 weeks, the Eastern and Australian S. S. Co. (this company's steamers do not call at Manila on the south-bound voyage), once every 4 weeks, and the Australian-Oriental Line, once every 4 weeks. Steamers of

the Pacific Mail S. S. Co. and Tōyō Kisen Kaisha's North American Line, also call at Manila (see Chapter I).

(b) Hongkong to Hai-phong and *vice versa*. (1) The Ōsaka Shōsen Kaisha. Sailings once a week. Vessels on both outward and homeward voyages call at Hoi-how. Length of voyage, 4 days. Fares: 1st cl., single, $40; return, $60. (2) Compagnie de Navigation Tonkinoise. Sailings once every 5 days. Its vessels frequently call at Hoi-how, Pak-hoi, and Kwang-chau-wan. Fares: 1st cl., single, $40; return, $75. (3) China Navigation Co. Sailings once a week; steamers call at Hoi-how and Pak-hoi. Fares, same as above. (4) Indo-China S. N. Co. Sailings once a week. Fares the same as above.

(c) Between Hai-phong and Saigon (847 km.). This is a branch line of the M. M. Co. which maintains the only connecting line. Service once a week, calling at Camranh, Quinhon, and Tourane. Fares: 1st cl., 212 frs., 2nd cl., 155 frs.

(2) ***Connections at Singapore.***

(a) Singapore to Saigon and *vice versa*. Besides the M. M. Co.'s Line between Marseilles and Yokohama, it maintains this branch line, with sailings every other week. Its vessels call at Poulo-Condore Island. Fares: 1st cl., single, 140 frs.; 2nd cl., 105 frs.

In addition to the above, between Saigon and Bangkok there is P. Roque Co.'s service, with sailings once every other week.

(b) Singapore to Bangkok and *vice versa*. (1) Straits Steamship Co. Once a week. This company maintains a line to British Borneo. Fares: 1st cl., single, $70: return, $120. (2) The British India S. N. Co. Irregular service. Fares: 1st cl., single, $70; return, $120. (3) Siam Steamship Co. Sailings twice a week, from each terminus.

(c) Singapore to Malay Peninsula. There are the following three lines, under the management of the Straits S.S. Co. (see P. 278).

1. Singapore to Port Swettenham. 2. Singapore to Teluk Anson. 3. Singapore to Penang.

(3) ***Connections at Ports of the Dutch East Indies.***

All routes in this district are under the control of the Royal Packet Co., and, since the relations between them are very complicated, they are classified only according to the ports of departure. Moreover, the ports of call are not only numerous, but are frequently varied on the outward and homeward voyages, and for this reason only the pricipal of these are here given.

From Amboina. (1) Amboina, Banda Neira, Ceram, West New Guinea, and *vice versa*. Sailings once a month. Ports of call; Saparoea, Amokei, Banda Neira, Geser, Kaimana, Kokas, Wahoi, and Piroe. This route being a circular one, the steamers reverse the order of the ports every other voyage. To Banda Neira, 3 days; fare, 1st cl., *fl.* 31. To Kokas, 7 days; fare, *fl.* 106. The entire

route, 11 days; fare, *fl.* 160. (2) Amboina, Banda Neira, Kei, Tenimber, Aroe Island, Merauke, and *vice versa*. Sailings once every 4 weeks. Ports of call: Saparoea, Banda Neira, Tocal, and Dodo. Steamers call at Tenimber Island on both outward and homeward voyages every other trip. To Merauke, one week; fare, *fl.* 138. (3) Amboina, Ternate, North Moluccas, North New Guinea, and *vice versa*. Sailings once every 4 weeks. Ports of call: Namlea, Sanana, Ternate, Tabelo, Weda, Sorong, Manokoeari, Roön, and Humboldtsbay. Ports of call vary on the outward and homeward voyages. Length of voyage, 15 days; fare, *fl.* 257.

From Bandjermasin. (1) Bandjermasin, Poeloe Laoet, Pasir, Makassar, and *vice versa*. Two services every other week, on one of which calls are made at every port, such as Pegatan, Stagen, and Kota-Baroe, and on the other only at Kota-Baroe and Pasir. Length of voyage, 6 days; fare, *fl.* 64. (2) Bandjermasin, S. coast of Borneo, and *vice versa*. Sailings once every four weeks. Ports of call: Samoeda, Sampit (on homeward voyage also Mendawei). To Sampit, 3 days; fare, *fl.* 27.

From Batavia. (1) Batavia, Oasthaven, Telok Betong, Merak, Kalianda, Kota-Agoeng, and *vice versa*. Sailings once a week. Ports of call: Oosthaven, Merak, Kalianda, and Telok-Betong. Fare, to Telok-Betong, *fl.* 18. (2) Batavia, Tandj. Pandan, Tandj. Pinang, Singapore, and *vice versa*. Sailings once a week. Length of voyage, 4 days; fare, *fl.* 77. (3) Batavia, Muntok, Palembang, and *vice versa*. Sailings once a week. Length of voyage, 3 days; fare, *fl.* 52. (4) Batavia, Banka, and *vice versa*. Sailings once every other week. (5) Batavia, Pontianak, Japa, Bandjermasin, and *vice versa*. Sailings once every other week. Ports of call: Pontianak, Tandj. Pandan, Cheribon, Semarang, Soerabaja, Bandjermasin, (first call at Pontianak, then back to Batavia, then Bandjermasin). To Pontianak, 4 days; fare *fl.* 70. To Bandjermasin, 6 days; fare, *fl.* 86. (6) Java, Small Sunda Island, Timor, South West Island, and *vice versa*. Sailings once every other week. Ports of call: Soerabaja, Ampenan, Soembawa, Waingapoe, Endeh, Savoe, Koepang, Atapoepoe, Dammar, etc. (But ports E. of Koepang are omitted in every other trip.) Fares: from Soerabaja to Koepang, *fl.* 120; to Dammar, *fl.* 164. (7) Batavia, W. Coast of Sumatra, Padang, Acheen, Penang, and *vice versa*. Sailings once every other week. To Penang, 11 days; fare, *fl.* 207.

From Belawan Deli. Belawan Deli, E. Coast of Sumatra, Singapore, and *vice versa*. Ports of call: Asahan, Peneh, Berombang, etc. Sailings once a week. Length of voyage, 5 days; fare, *fl.* 69.

From Makassar. (1) Makassar, Gulf of Boni, and *vice versa*. Sailings once every other week. Ports of call: Bonthain, Saleier. Sindjii, Badjowé, Palima, Kolaka, and Palopo. To Malili, 3 to 4 days; fare, *fl.* 74. (2) Makassar, E. Coast of Borneo, and *vice versa*. Sailings once every other week. Ports of call: Samarinda, Boelongan, and Berouw. To Boelongan, 4 days; fare, *fl.* 100, (3) Makassar, West Celebes, Toli Toli, and *vice versa*. Sailings once

every other week. Ports of call: Madjene, Simpaga, Donggala, etc. To Toli Toli, 4 days; fare, *fl.* 76.; to Donggala, *fl.* 53. (4) Makassar, East Celebes, Bangaai Archipelago, Gorontalo, and *vice versa*. Sailings once every 4 weeks. Ports of call: Boeton, Raha, Kandari, Salabangka, Boengkoe, Kolonodale, Loewoek, Boenta, etc. To Gorontalo, 12 days; fare, *fl.* 154. (5) Makassar, North Celebes, Menado, Ternate, and *vice versa*. Sailings once every 4 weeks. (On outward trip, direct voyage up to Toli Toli, then to Menado, calling at every port. On return trip, direct voyage from Donggala to Makassar). To Menado, 12 days; fare, *fl.* 114. (6) Makassar, Small Sunda Islands, Timor, and *vice versa*. Sailings once every six weeks. (On outward trip, direct to Bima and then, via several ports on the Northern Coast of Flores Island, to Atapoepoe and Koepang. On homeward trip, via the Southern coast of Flores Island and the Northern coast of Soemba Island). To Koepang, 8 days; fare, *fl.* 106.

From Padang. Padang, W. Coast of Sumatra, Acheen, Belawan Deli, Penang, and *vice versa*. Sailings once every 4 weeks. Ports of call: Sibolga, Oelëe, Lheuë, Sabang, etc. On outward trip, no call is made at Belawan Deli. To Sabang, 8 days; to Penang, 12 days; fare, *fl.* 155.

From Palembang. Palembang, Singapore, and *vice versa*. Sailings once a week. (On return trip, a call is made at Muntok. Length of voyage, 2 days; fare, *fl.* 46.

From Penang. (1) Penang, Belawan Deli, Batoe Bara or Langsa, and *vice versa*. Sailings once a week. To Belawan Deli, 1 day; fare *fl.* 21. (2) Penang, Belawan Deli, Asahan, Penang. Sailings once a week. Fare, to Asahan via Belawan Deli, *fl.* 37. If no call is made at Belawan Deli, *fl.* 25.

From Pontianak. Pontianak, Singapore, and *vice versa*. Sailings once every 8 or 9 days. Length of voyage, 2 days; fare, *fl.* 57.

From Sabang. Sabang, Belawan Deli, and *vice versa*. Sailings once a week. Length of voyage, 1 day; fare, *fl.* 41.

From Semarang. (1) Java, Singapore, Penang, Acheen, W. Coast of Sumatra, Padang, and Java. Sailings once every other week. Ports of call: Batavia (fare, *fl.* 32), Singapore, (fare, *fl.* 109), Penang, Sabang, Sibolga, Padang, and all other ports on the W. Coast of Sumatra Island, to Soerabaja. (2) Java, Belawan Deli, and *vice versa*. Sailings once every other week. Ports of call: Batavia and Cheribon (only on homeward voyage). Length of voyage, 6 days; fare, *fl.* 152. (3) Semarang, Palembang, Djambi, and *vice versa*. Sailings once every four weeks. Ports of call: Batavia and Moera Saba. Length of voyage, 6 days; fare. 1st cl., *fl.* 89.

From Singapore. (1) Singapore, W. Coast of Borneo, and *vice versa*. Sailings once every 5 or 6 days. Ports of call: Singkawan, Pemangkat, Sambas, etc. (Once in every 5 trips or so calls are made at Pontianak and Great Tambilan. On almost every other voyage, vessels go from Sambas to Serasan, and Poeloe-Pandjang.) Length of voyage to Sambas, from 3 to 5 days; fare, *fl.* 75. (2) Singapore,

Soerabaja, Bandjermasin, East Borneo, Donggala, and *vice versa*. Sailings once a week. Ports of call: Soerabaja, Bandjermasin, Samarinda, Donggala, etc. (Soerabaja and Donggala alternately every other trip.) Length of voyage and fares. To Bandjermasin, 4-6 days; *fl.* 143. To Samarinda, 8 or 9 days; *fl.* 194. To Donggala, 11 days; *fl.* 220. (3) Singapore, Djambi, and *vice versa*. Sailings once a week. Ports of call: Moera Saba and Simpang. Length of voyage, 2 days; fare, *fl.* 38. (4) Singapore, Rengat, and *vice versa*. Sailings once a week. Length of voyage, 2 days; fare, *fl.* 39. (5) Singapore, Belawan Deli, and *vice versa*. Sailings once a week. Length of voyage, 2 days; fare, *fl.* 42. (6) Singapore, Java, Makassar, North Celebes, Sangir and Talaud Islands, Gorontalo, Tomini Gulf, and *vice versa*. Sailings every other week. Ports of call: Batavia (only on outward trip), Soerabaja, Makassar, Balik-Papan, Donggala, Menado, Liroeng (Talaud Is.), etc. On the return trip, calls are made at many ports from Menado to the Tomini Gulf, from which point vessels proceed to Ternate and to Menado for the second time. Length of voyage to Menado, 17 days; fare, *fl.* 260. (7) Singapore, Anambas, Natoena Island, and *vice versa*. Sailings once every other week. Ports of call: Letong, Tarempa, Midai, and Genting. Length of voyage, 2 days; fare, *fl.* 67. (8) Singapore, Pakan Baroe, and *vice versa*. Sailings once every other week. Ports of call: Selat Pandjong, Bengkalis, Siak, and Pakan-Baroe. Length of voyage, 2 days; fare, *fl.* 42. 9. Singapore, Java, Bali, Lombok, Soembawa, Makassar, Amboina, and *vice versa*. Sailings once every other week. Principal ports of call: Batavia, Cheribon, Semarang, Soerabaja, Boeleleng, Ampenan, Laboean, Hadji, Makassar, and Amboina. Length of voyage to Amboina, 21 days; fare, 260. (10) Singapore, Banka, and *vice versa*. Sailings once every other week. Ports of call: through Muntok, Djeboes, Blinjoe, etc., to Tandjong Pandan. Length of voyage to Tandj. Pandan, 5 days; fare, *fl.* 94.

From Soerabaja. (1) Soerabaja, Bawean, Bandjermasin, and *vice versa*. Sailings once a week. Length of voyage, 2 days; fare, *fl.* 40. (2) Soerabaja, Makassar, and *vice versa*. Sailings once a week. Length of voyage, 2 days; fare, *fl.* 79. (3) Java, Singapore, Belawan Deli, and *vice versa*. Sailings once a week. Ports of call: Semarang, Batavia, Singapore, and Belawan Deli. Length of voyage, 5 days; fare, *fl.* 166. (4) Java, Madura, Bali, Lombok, and *vice versa*. Sailings once a week. Ports of call: Boeleleng, Ampenan, and Benoa. Length of voyage to Benoa, 2 days; fare. *fl.* 51. Calls are made at Soemenap and Banjoewangi every other trip, and at other ports according to circumstances. (5) Java, Padang, W. Coast of Sumatra, Acheen, Penang, Singapore, and Java. Sailings once every two weeks. Ports of call: From Soerabaja and through Semarang, Cheribon, and Batavia, to Padang, Sibolga, and Sabang (W. Coast of Sumatra Island); thence via Penang and Singapore to Semarang. Length of voyage, 34 days. (6) Soerabaja, Palembang, and *vice versa*. Sailings once every 4 weeks; ports of call: Semarang, Cheribon, and Batavia. From Batavia, one day's trip; fare, 1st cl., *fl.* 52.

Palm Avenue in the Philippines.

PART I. PHILIPPINE ISLANDS.

INTRODUCTION.

Chapter I. Preliminary Information.

I. Arrival at the Philippines. There are two main gateways by which travellers from abroad may enter the Philippine Islands, namely Manila in the N. and Zamboanga in the S. The latter port, however, is greatly lacking in the necessary means of communication with other ports in the Philippines, and Manila is to be preferred for this and other reasons. Besides the great ocean liners, which in their course of navigation between the Pacific coasts of America and the Far East call at Manila, there are ample facilities of steamship service between this port and the ports of Japan and the Asiatic mainland, such as Yokohama, Kōbe, Shanghai, and Hongkong.

Of all the neighbouring Asiatic ports, Hongkong enjoys the amplest steamship connection with Manila. Not only do the large steamship companies, like the Nippon Yūsen Kaisha, Tōyō Kisen Kaisha, Ōsaka Shōsen Kaisha, Canadian Pacific Railway Company, and Eastern & Australian Steamship Company, maintain frequent communication between Hongkong and Manila as a part of their more extended services, but there are other smaller companies, such as the China Navigation Company and the Indo-China Steam Navigation Company, which maintain special weekly services between the two ports; thus the China N. Co.'s steamers leave both ports

TYPICAL CART DRAWN BY THREE CARABAOS.

every Tuesday and the Indo-China S. N. Co.'s steamers every Saturday. *Fare*, the same by either line, 1st class $43 (Mex.), return ticket $75 (Mex.). These return tickets are valid for 6 months in the case of the former, and for 4 months in the case of the latter, company.

Travellers of other than American nationality are required to pay 8 dollars (gold) as immigration tax, the money, however, being refunded, if they leave the Philippines within a month.

Between Singapore and Manila through-service steamers are scarce. It is often more convenient to break one's journey at Hongkong and take one of the weekly steamers from there to Manila. Between Australian ports and Manila, regular services are maintained by the Nippon Yūsen Kaisha, Eastern & Australian Steamship Company, and Australian-Oriental Line. Between the Pacific coasts of North America and Manila, the following steamship companies maintain regular services:

(1) *Nippon Yūsen Kaisha.* Fortnightly service from Seattle; passengers bound for Manila change at Kōbe to one of the company's Australian line steamers (service, once in four weeks), the trip between Kōbe and Manila taking about 10 days, charge (1st class), 128 yen.

(2) *Tōyō Kisen Kaisha.* One sailing every 10 days from San Francisco; passengers bound for Manila change at Yokohama to one of the company's Hongkong line steamers, (calling at Manila once a month), the trip between Kōbe and Manila taking 7 days, charge (1st class), 120 yen.

(3) *Ōsaka Shōsen Kaisha.* Fortnightly service, between Tacoma and Hongkong, calling at Manila each alternate trip (the trip between Kōbe and Manila taking 10 days, charge 120 yen). This company also operates a South-Sea service, from Keelung, Taiwan (Formosa Is.), the steamers of which call at Manila once a month, there being a connecting service between Kōbe and Keelung (six trips monthly).

(4) *Canadian Pacific Railway Co.* The steamers of this line running between Vancouver and Hongkong call at Manila.

(5) *Eastern & Australian Steamship Co.* Steamers of their Kōbe—Hongkong—Australian line call at Manila.

II. Custom-House. Travellers' personal effects are not taxed, with the exception of alcoholic drinks and tobacco. In the case of the latter, however, adults are allowed 50 cigars and 300 cigarettes free. Dutiable articles may be left in the Customs' custody, for a nominal storage charge, and, upon reasonable notice being given, the owner may have them delivered to him on board ship before his departure. The Philippine authorities are very strict about pistols and other fire-arms, which should be delivered over to the Customs officials, in exchange for a receipt. A permit for keeping them may be secured at the police headquarters by depositing 100 pesos.

III. Itinerary Plans. In drawing up a plan of itinerary, much depends upon how much time the traveller is prepared to spend in seeing the Philippines. It may be said that with a week or 10 days

nearly all the sights of interest in the island of Luzon may be visited. The first day (by automobile, as Cook suggests in his plan, see P. 39) or two days (by tram-cars or carriages) will be sufficient for Manila. The 2nd day will be taken up by a visit to Antipolo, Fort William McKinley, and Montalbán Gorge. The 3rd day, by a trip to Baguio. The 4th and 5th days, by a trip to Los Baños and Pagsanjan, and two more days in visiting Lucena and Atimonan in the S. Several days more will be needed, if the mountain districts of Baguio, Cavite, Taal, and Mayon are to be visited.

In addition to the above, ten days will have to be set apart, if some of the islands in the S. are to be visited. The chief points of attraction in those islands are the port of Iloilo, the old town of Cebu, the new, growing Zamboanga, etc. For a party of eight to twenty-four persons, either the 'Philippine Publicity Committee' or Thos. Cook & Son will be able to hire one of the Coast Guard cutters to convey them to the places above named for a ten days' trip; Charge 225 pesos a day for the ship, 3 pesos a day for food for each person. There are, of course, facilities of regular or semi-regular steamship communication between Manila and those places in the southern islands.

IV. Climate and Time of Visit. It is difficult to say what time of the year is the best season for visiting the Philippines as a whole, since there are great differences in heat and humidity, due to the geographical positions of the various islands and the course of winds. It may be roughly said, however, that the hottest months are April and May, and the most humid months August and September. Broadly speaking, the year in the Philippines may be divided into the rainy and dry seasons, the former extending from July to October and the latter from December to May. June and December show the greatest changes of weather. On the whole, perhaps the best season is between November and February, the heat being at this time less intense and the nights cooler than during the rest of the year. It should be remembered also that the E. and W. coasts of the Islands show in many ways opposite meteorological effects; for instance, when the N. E. trade winds are blowing on the E. coasts, the W. coasts are being subject to winds from the S. W., and vice versa, which also bring about corresponding differences in temperature. In the S. islands the rainfall is even throughout the year.

The following are the records of annual temperatures between 1910 and 1912:

	Highest (Fahr.)	Lowest (Fahr.)	Mean (Fahr.)
1910	95.2°	67.3°	80.2°
1911	93.0°	62.2°	78.6°
1912	92.3°	60.3°	77.4°

V. Hotels and Restaurants. In Manila, Baguio, and some other towns, travellers will find themselves well accommodated in good hotels. But in a large number of towns, even in certain well-known ones, there are no hotels where one may put up comfortably. Often a bed may be secured at a government rest-house, or one will be

thankful if one can find shelter under a friendly roof. It is always well in travelling through the Philippines to take a stock of biscuits and canned food. In most places, however, chickens, eggs, rice, vegetables, and fruit can be obtained. Ice is found in all large towns and in health resorts. Hotel charges are anywhere between 3 pesos and 8 pesos, generally 5 pesos. Canned meats are very largely used in these hotels, also condensed milk, as dairies are scarce. A glass of beer costs 20 centavos, soda water 20 centavos, whisky, wines, etc., 40 centavos.

VI. Money, Weights, and Measures. In Spanish times the Mexican dollar was in universal circulation, and the market always suffered from frequent changes in its exchange value. Since the American occupation, a gold standard has been introduced. The currency of the Philippines now consists of paper and silver, maintained at par by a reserve of gold. 1 peso (= ½ gold dollar) equals 100 centavos (called centimo by the natives).

Silver Coins: the peso, medio peso (50 c.), peseta (20 c.), media peseta (10 c.); of these coins, the medio peso, peseta, and media peseta are legal tender to the amount of 20 pesos only.

Nickel Coins: the five centavos, legal tender to the amount of 20 pesos only.

Copper Coins: the centavo and medio centavo; the latter is scarcely ever in circulation.

Silver Certificates: the Treasury Certificates (₱2, 5, 10, 20, 50, 100, and 500) and the notes of the Bank of the Philippine Islands, formerly, Banco Español-Filipino (₱5, 10, 20, 50, 100, and 200).

The weights and measures used by the Government all belong to the metric system, though the old Spanish weights and measures, as well as the native scales and measurements, are still used to a

EMBROIDERY PUPIL, NORMAL SCHOOL.

certain extent, but the only unit that the tourist is likely to encounter is the *vara*, a measure of length much used in connection with the native cloths, which are commonly made in pieces of 24 varas (i.e., about 22 yards, 1 vara being nearly 33 inches). Some knowledge of the metric system is necessary, as the average Filipino knows nothing of English weights and measures. In the text practically all distances are given in the metric system.

VII. Guides. There are no professional guides having official licenses; but the English language is spreading so rapidly, that if travellers speak English, they will find no great difficulty in going about without them, unless they go far into the interior of the country. However, guides are no doubt a great convenience. Instead of professional guides, young men from schools can be engaged to act as guides, on application to the Manila Merchants' Association (*De la Rama Building, Plaza Goiti, Sta. Cruz*) or to Thos. Cook & Son. These 'amateur guides' are very useful to newcomers, supplying them with all needed information. The charge for a student-guide is ₱1.65 per ½ day, ₱2.75 per day. Petty Filipino officials in the interior of the country do not, as a rule, speak English, but they are invariably kind and obliging to newcomers. In a place where neither an hotel nor a rest-house is to be found, the local officials will, if applied to, generally find some kind of accommodation and otherwise act as guides to those wishing to view the interesting sights in the locality.

Holidays in the Philippines.

Legal Holidays.

Jan.	1.	New Year's Day
Feb.	22.	Washington's Birthday
Apr.	1.	Holy Thursday
Apr.	2.	Holy Friday
May	1.	Labour Day
May	30.	Memorial Day
June	19.	Rizal's Birthday
July	4.	Independence Day
Aug.	13.	Occupation Day
Nov.	26.	Thanksgiving Day
Dec.	25.	Christmas Day
Dec.	30.	Rizal Day

Roman Catholic Holidays.

Jan.	1.	Circumcision
Jan.	6.	Epiphany
Feb.	2.	Purification
Mar.	19.	St. Joseph
Mar.	25.	Annunciation
May	24.	Ascension
June	14.	Corpus Christi
June	29.	St. Peter & St. Paul
July	25.	St. James the Apostle
Sept.	8.	Nativity of the Blessed Virgin.
Nov.	1.	All Saints
Dec.	8.	Immaculate Conception
Dec.	25.	Nativity of Jesus Christ
Dec.	30.	St. Andrew the Apostle (for City of Manila Intramuros only)

The Philippine Carnival, or Manila's Annual Festival, celebrated in the Wallace Field, during one week in February, is undoubtedly the greatest of all the festivals in the Islands.

"While it lasts, most of the town puts on festival garb and takes a series of half holidays, and dominos become familiar sights in the public streets. Within the grounds are the usual amusement features, a hippodrome with spectacular performances, and extensive and interesting exhibits of the products of the Islands, sent by the provincial governments, the scholars, and private concerns. Elaborate parades—military, industrial, and carnival—and great balls, both exclusive and popular, complete the programme. The time of the year when the carnival is held is, for a variety of reasons, the best in which to visit the Philippines, and the intending tourist would do well to lay his plans in such a manner as to take in the best part of it."

Chapter II. Means of Communication.

I. Roads. The Spanish Government was by no means neglectful in making roads all over the Islands. But, as none of these roads were surfaced, they easily got into a bad state of repair, as soon as the rainy season came on, and, when the Americans came in, the most urgent task they had to perform was the making of smooth, durable, metalled roads. When, in 1904, Mr. W. Cameron Forbes (who later was appointed the Governor-General) came as the Secretary of Commerce and Police, he found the surfaced roads amounted to only 350 miles. It was chiefly owing to his great efforts, backed by prodigal expenditure from the government, that road-making now made rapid progress, so that at the end of the last fiscal year (June 30, 1915), there were in existence 1,735 m. of first-class hard-surfaced roads, 1,310 m. of second-class light-surfaced roads, 1,971 m. of third-class unsurfaced roads.

It must be regarded as a great achievement of American civilization, that, within fifteen years from the American occupation, there should already exist several hundred miles of splendid roads in Luzon Island alone, radiating in all directions from Manila. Visitors may take advantage of these for an automobile ride, viz.: 620.9 km. to Bangui in the N. and 201 km. to Gumaca in the S., not to mention the shorter ones leading to interesting places nearer the city, e.g. to Fort William McKinley, Pasay, Antipolo, the Montalbán Gorge, Los Baños, and Baguio.

II. Railways. At the time when the Philippines came under the American rule, there was but one line of narrow gauge railway, which extended from Manila to Dagupan in the N. for a distance of some 120 miles. This was built in the last days of the Spanish régime by an English company, which has since developed into the present Manila Railroad Company. This company has the Island of Luzon for its own exclusive field, over 1,000 m. of the line being already opened, while the Philippine Railway Company has the islands of Panay and Cebu, there having been already built the two important lines of Capiz-Iloilo (72 m.) in Panay Is. and Argao-Cebu-Danao (59 m.) in Cebu Is.

Railway Tariff. On all the lines owned by the Manila Railroad Company, the first class passenger fares are fixed by per kilometre rates, which become less as the distance increases (½ km. being counted as 1 km. and a distance less than ½ km. being disregarded). The per kilometre rates (1st class) are as follows:—

From 1 km. to 100 km. ₱0.040. From 201 km. to 300 km. ₱0.030.
„ 101 km. „ 200 km. ₱0.035. „ 301 km. upwards ₱0.026.

Children from three to nine years of age shall pay one-half the rate paid by adults. Passengers holding full first class tickets shall be entitled to the free transportation of fifty kg. or less of personal baggage; children holding half tickets shall be entitled to one-half the weight granted to adults. Rates for excess baggage per hundred kg. per kilometre are:

From 1 km. to 20 km. ₱0.040. From 201 km. to 300 km. ₱0.009.
„ 21 km. „ 100 km. ₱0.015. „ 301 km. upwards ₱0.007.
„ 101 km. „ 200 km. ₱0.010.

Twenty kilometres shall be regarded as the minimum distance for such rates. The average rates per kilometre on the lines of the Philippine Railway Co. are ₱0.05 first class and ₱0.025 second.

III. Philippines Interisland Navigation. However greatly railway facilities may develop in the future, steamship navigation between Manila and the ports in the different islands of the group will always remain an indispensable means of communication. Muelle de la Industria, which is on the right bank of the Pasig and below the Bridge of Spain is the mooring place for the smaller of the coasting steamers, and at the 'Captain of the Port's' building, on the inner side of this embankment, travellers may purchase tickets for any of the interisland steamers, book their luggage, and obtain all necessary information regarding their voyage. The following are the schedules of ships on service maintained by the different S.S. companies conducting the interisland navigation:

S.S. Companies and their Services from Manila.	Destinations and Ports of Call.
J. M. Poizat & Co.	
Weekly mail and passenger service.	Legaspi and Tabaco (S. Luzon).
Bi-monthly mail and passenger service.	Iloilo, Cebu, San Carlos and Dumaguete, Cagayan de Misamis, Iligan and Zamboanga.
Tri-monthly mail and passenger service.	Bulan (S. Luzon), San Jacinto (Is. of Ticao), Calbayog and Cathalogan (Is. of Samar), Tacloban and Carigara (Is. of Leyte).
Daily mail and passenger service.	Corregidor, (Is. of Luzon).
Excursion steamer.	Open for charter to any ports of the islands.
Ynchausti & Co.	
Every Saturday.	Iloilo.
Every fortnight.	Legaspi, Tabaco, Gubat, and Virac (S. Luzon).
Every fortnight.	Sorsogon, Bulan, Legaspi, Tabaco, and Virac.
Every ten days.	Donsol, Bulan, and Sorsogon (S. Luzon).
'Tabacalera'	
Every Saturday.	Ports of Northern Luzon.
Compañia Maritima.	
Weekly service.	Cebu
Weekly service.	Cebu, Negros, Mindanao, and Jolo.
Fortnightly service.	Masbate, Samar, Leyte, and Mindanao.
Tri-monthly service.	Marinduque, Romblon, and Panay.
Siy Cong Bieng & Co.	
14th of each month.	Daet and Nueva Cáceres (S. Luzon)
Every fortnight.	Masbate, Laoang (Is. of Samar), and Nato (S. Luzon).
Gutierrez Hermanos.	
Every fortnight.	Gubat, Legaspi, Tabaco, Virac, Lagonoy, and Sagnay (all in S. Luzon).
Every fortnight.	Bulan (S. Luzon), Palacaie, Atimonan, Mauban, and Silanga (the last four on the E. coast of Luzon).
Every twelve days.	Daet and Nueva Cáceres.
G. Urrutia & Co.	
Every fortnight.	Legaspi, Tabaco, Lagonoy, and Virac (S. Luzon).
Every fortnight.	Catarman, Daet, and Nueva Cáceres.
Every ten days.	Guinayangan (Tayabas Prov., Luzon).
Every thirty days.	Guinayangan.
Fernandez Hermanos.	
Every fourth Saturday.	Cebu, Negros, and Mindanao.
Every fourth Saturday.	Leyte and N. Mindanao.

Launch Schedules (Teceoro R. Yangco, Manila).

From Manila	to Bataan.	Return
Mon., Wed., Fri., and Sat., at 6.45 a.m.	Limay, Orion, Pilar, Balanga, Abucay, Mabatang, Samal and Orani.	next day at 12 noon.
Sun. and Thur., at 6.45 a.m.	Orion, Pilar, Balanga, Abucay, Mabatang, Samal, and Orani	next day at 11.30 a.m.
Sun. and Thur., at 6.45 a.m.	Limay, Lamao, Cabcaben, San Jóse, and Mariveles	next day at 11.30 a.m.
Tu., at 6.45 a.m.	1st boat: Orion, Pilar, Balanga, Mabatang; 2nd boat: Limay, Abucay, Kaligaman, Samal, and Orani.	next day at 11.30 a.m.
	to Guagua.	
Daily, at 6.45 a.m.	Batang, Lubao, Sexmoan, and Guagua.	daily at 10.30 a.m.
	to Bataan-Guagua.	
Wed. and Sat., at 6 45 a.m.	Bataan, Lubao, Sexmoan, and Guagua.	Thur. and Sun., at 12 noon.
	to Cavite.	
Daily, at 6.45 a.m. 10.00 a.m. 2.10 a.m. 4.30 a.m.	Note: Saturday steamer leaves for Cavite at 4.50 p.m. Note: Duration of voyage one hour either way. Leave Cavite for Manila 6.45 a.m.; 9.30 a.m.; 1.45 a.m.; 4.30 p.m.	daily, at 7.45 a.m. 10.30 a.m. 2.45 p.m. 5.30 p.m.
	to Laguna ports.	
Daily, at 6.30 a.m. 7.00 a.m.	Pasig, Sta. Cruz, Binang, Santa Rosa, Cabuyao, Calamba, Los Baños, Bay, Pila, Linga, Santa Cruz, Paete, and Sinilaon.	daily, at 12 noon. 2.30 p.m. 5.00 p.m.
Daily, 1 p.m.	Pasig and Sta. Cruz.	
	to Rizal ports.	
Mon., Wed., and Fri., at 7.30 a.m.	Pasig, Angodo, Binangoan, Cardona, Morong, Tanay, Pililla, Quisao, and Jalajala. Note: Wed. boat continues as far as Pililla only.	Tu., Thur., and Sat., at 1 p.m.
	to Zambales ports.	
Tu., at 7 a.m.	Olongapo, Subic, San Antonio and San Narciso.	Olongapo for Manila —Wed., at 9 p.m.
Thur., at 7 a.m.	Bagac, Morong, Olongapo, and Subic.	Olongapo for Manila —Fri., at 7 a.m.
Sat., at 7 a.m.	Olongapo, Subic, San Antonio, San Narciso, and Iba.	Olongapo for Manila —Sun., at 9 p.m.

Note: For Rizal and Laguna ports, take launch at foot of Calle Pinpin (formerly Pasaje de Perez), off Escolta. For Cavite, Bataan, Guagua, and Zambales, take launch at 421 Muelle de la Industria.

China Navigation Co.'s weekly service: Hongkong-Manila-Cebu-Iloilo. S.S. 'Tean,' 'Taming,' and 'Chinhua,' leave Hongkong and Manila on Tuesdays.

		(Mex.)		(Mex.)
Fares:	First class, Hongkong to Manila ...	$45.00	Return	$75.00
	,, to Cebu	70.00	,,	120.00
	,, to Iloilo	70.00	,,	120.00

Round voyage:—Hongkong, Manila, Cebu, Iloilo, Manila, Hongkong, including maintenance on board when in ports, $130,00; voyage 17 days.

IV. Other Means of Communication. ***Automobile:*** There are automobiles for hire in Manila and all the cities and towns of importance in the Islands. *Tariff* (per hour)—Autos with five seats, ₱6; with six seats, ₱8; with 7 seats, ₱10.

Automobiles were first introduced from France in 1900, and in June 1915 there were 2,404 in the Islands, besides 982 motor-cycles.

DANCING IGOROT BABY NURSE.

Carriages: It goes without saying that better carriages may be hired at livery stables than in the street. The drivers of the former as a rule take the place of guides to a certain extent. The following is the tariff for carriages from livery stables:

Calesa (folding tops)	₱ 1.50 per hour.
Single Victoria	,, 2.00 ,, ,,
Double ,, ...	,, 2 50 ,, ,,
Vis-à-vis	,, 4.00 ,, ,,

In Manila and other large towns, street vehicles have fixed tariffs.

Horses: In all towns throughout the Islands, native ponies, with saddle and bridle, may be hired, for ₱1–4 per day. These can carry a person of medium weight thirty five miles in a day.

Boats: A native canoe, called *Bancas*, having one boatman and seating one or two passengers (rarely more than two), may be hired for a short distance.

Chapter III. Post, Telegraph, and Telephone.

Post. As would be expected under the American régime, the Philippines enjoy well-organized and efficient postal administration. At the end of June 1915, there were 683 post-offices in the Islands, and of these 307 were money-order offices.

Schedule of Postal Rates.

Mail matter.	For places in the Islands.	For U.S.A.*	For other countries.
1st class matter—Letters and Postal cards.	Letters, per ½ oz. or fraction thereof, ₱0.02. (No maximum limit fixed regarding weight). Postal cards (each), ₱0.02.	Letters, per 1 oz. or fraction thereof, ₱0.04. (Maximum weight, 4 lb.)	Letters, per ½ oz or fraction thereof, ₱0.10. (No maximum limit fixed regarding weight) Postal cards (each), ₱0.04.
2nd class matter—Newspapers and Periodicals.	(1) When the sender is the publisher himself, per 1 lb. or fraction thereof, ₱0.02. (2) When the sender is other than the publisher, per 4 oz or fraction thereof, ₱0.02. (No maximum limit fixed regarding weight).	Same as in the Philippines.	Printed matter—(within a fixed limit as to size) per 2 oz. or fraction thereof, ₱0.02.
3rd class matter—Printed matter.	Per 2 oz. or fraction thereof ₱0.02. Except single books weighing more than that amount. (Maximum weight, 4 lb.).		(Maximum weigh 4 lb. 6 oz.)
4th class matter—Merchandise samples.	Per 1 oz. or fraction thereof, ₱0.02. (Maximum weight 4 lb., except single blank books).		Merchandise samples, (within a fixed limit as to size). Per 4 oz. or fraction thereof, ₱0.04. For each additional 2 oz. or fraction thereof, ₱0.02. (Maximum weight 12 oz.).

* *including (Hawaii and Porto Rico), Guam, Tutuila, the Canal Zone, the Shanghai Postal Agency, Canada, Cuba, Mexico, and Panama.*

Note: All mail matter may be registered by payment of extra postage of ₱0.16 for each article. By paying special rates, 1st class mail matter may be specially addressed 'via the Trans-Siberian Railway'; letters, per ½ oz. or fraction thereof, ₱0.20; postal cards, ₱0.08.

Telegraph. All inland domestic telegrams are sent over the Government lines. The telegraph offices, which are generally included in the post-offices, number 308 (June 30, 1915). The submarine lines belong to private companies: viz., the cable from Manila to Iloilo and Cebu, to the Eastern Extension Australasia & China Telegraph Co.; the line to the United States, to the Commercial Pacific Company. The land lines amount to 5,272 m., and the submarine interisland lines to 1,173 miles. There are seven wireless stations on the Islands, viz., Manila, Cavite, Corregidor, Zamboanga, Jolo, Malabang, and Davao. Thus all the provincial capitals

(except Basco of Batanes Islands, and Butuan of Agusan Province) are now in telegraphic communication with each other.

Rates for Telegrams: Domestic telegrams: 10 words or less in body of message (no charge for name and address), rates vary from 40 centavos to ₱2.60. Rush telegrams, double rates.

Baguio	₱ 0.80	10 words or less in body of message.
Cebu	,, 1.60	
Iloilo	,, 1.40	
Zamboanga	,, 2.40	

Foreign Telegrams:

San Francisco	₱ 2.00	Other places in China and Manchuria	₱ 0.70
Chicago	,, 2.18	Japan and Chōsen...	,, 1.44
New York	,, 2.24	Singapore	,, 0.80
Europe, all countries...	,, 2.20	India	,, 1.29
Hongkong	,, 0 30	Ceylon	,, 1.34
Shanghai	,, 0.50	Australia	,, 1.25

Telephone. Not only do all important cities enjoy ample telephonic facilities, but certain districts in the interior, which are out of reach of the telegraphic wires, have been brought within telephonic communication. Such are Mountain Province, Mindoro, Palawan, Nueva Vizcaya, the subprovince of Bukidnon, etc.

Chapter IV. The Land and the Inhabitants.

The Land. The Philippine Islands lie between 5° and 22° N. lat. and 117° and 127° E. long. In the S. they are separated from the Celebes and Borneo by the Sulu (or Mindanao) and Celebes seas. Towards the W. they face the China Sea and beyond it French Indo China, and towards the N. there lies the island of Taiwan (Formosa), while the entire E. coasts are washed by the waters of the Pacific. The group forms a triangle, with its base in the S. This runs practically on the same parallel as the S. end of Ceylon, and the N. frontier of Brazil, while the N. end of the triangle is in the same latitude as Honolulu. The Philippines have an area of 115,026 sq. m., being but slightly smaller than Great Britain and Ireland. There are in the group altogether 3,141 islands, of which 1,095 are habitable. There are 11 large islands, which, with their respective areas (Census, 1903), are as follows:

Luzon (40,969 sq. m.), Mindanao (36,292 sq. m.), Samar (5,031 sq. m.), Negros (4,881 sq. m.), Panay (4,611 sq. m.), Palawan (4,027 sq. m.), Mindoro (3,851 sq. m.), Leyte (2,722 sq. m.), Cebu (1,762 sq. m.), Bohol (1,441 sq. m.), and Masbate (1,236 sq. m.).

It will be seen that the total area of these eleven islands amounts to 106,823 sq. m., which constitutes by far the larger part of the area of the entire archipelago, while the rest of the group, composed of thousands of smaller islands, amounts to only 8,203 sq. miles. The two largest of the group are Luzon and Mindanao, which together contain an area of 77,261 sq. m., or 67% of the entire surface area of the Islands.

Of the total area (about 120,000 sq. m.) of the Archipelago, 50% or about 60 000 sq. m. is taken up by forests, 40% or about 48,000 sq. m. by grass-lands, and 10% or 12,000 sq. m. by cultivated lands.

Forests. Of the forests (60,000 sq. m.), 67% or about 40,000 sq. m. are virgin forests, 33% or about 20,000 sq. m. being second-growth forests. Of the trees in the virgin forests, 75% are trees of the *dipterocarp type*, i.e. the lauans, the apitongs, and the yacals; 10% are of the molave type, i.e. *vitex parviflora*; 5% of the pine type (found mostly in the high lands of N. and Central Luzon 2% are trees of the mangrove type (found mostly on the deltas of rivers, where are found, besides, the nipa palm), and 8% are trees of the mountain-top type.

Grass-lands or *cogonales.* These are large tracts of treeless lands, overgrown with *cogon* grass (*Imperata exaltata*) and *talahib* grass (*Saccharum spontaneum*). These treeless lands are created by a shifting system of agriculture, called *Caingin* making, so generally resorted to by natives in the mountain districts. The trees within a certain limit are cut down and when dried are burnt. Then seeds are sown and crops raised. But soon the space becomes overgrown with grass and shrubs and is burnt again. In the third year the farmer removes to another spot, which he again turns after a few years into another cogonal. The cogonales are the breeding places of noxious insects, and, as the grass sends its roots deep into the ground, the natives, with their imperfect implements, find it most difficult to plough them up. The farmers, therefore, prefer turning virgin forests into temporary agricultural lands by burning down trees, instead of ploughing up cogonales.

Cultivated Lands. Of the 12,000 sq. m. of cultivated lands, 38% are taken up by rice-fields, 12% by *abacá*, 12% by corn, 7% by cocoanut, 5 4/5% by sugar-cane and 2 1/5 by tobacco.

Physical Features. As a rule the interior parts of the Islands are mountainous, while low arable lands lie near the coast or in mountain valleys. The mountains are mostly volcanic in origin. In fact the Islands are mostly formed of igneous rocks of various sorts. In many places strata of the Mesozoic Period are exposed. The Islands form a part of the seismic belt extending throughout the South Seas and are subject to frequent earthquakes. There are naturally many active volcanoes and hot springs throughout the Islands. The springs generally contain iron and sulphur and are largely used by the natives for medicinal purposes.

Mountain System. As a rule the mountain ranges run from N. to S., sending off at the same time various off-shoots in other directions. In the island of Luzon there are three main ranges. Of these the *Caraballos Sur* rises high in the centre of the Island. From this central range there runs to the N. another range, known as the *Caraballos Occidentales*, while similarly there runs N. along the Pacific coast the *Sierra Madre Range.* Further, other ranges run off to the S., giving rise to the two volcanoes of Mayon and Bulusan. A range known as Zambales rises at Cape Bolino in the N. and, running along the China Sea coast, ends at the entrance of Manila Bay. Yet another, the Tagaytay Range, forms a barrier between

Cavite and Batangas provinces, giving rise to the Taal Volcano. The mountain system of Luzon, after disappearing under water in its S. course, appears again in the Visayas Islands, and yet again in the Mindanao Island. There is also a range which, running S. by way of Mindoro, gives rise to Palawan, which is situated to the N. E. of the island of Borneo. In the island of Mindanao there are the Dewata Ranges, which run along the E. coast, the two ranges of *Apo* and *Matutum* in the S., and the Kulitung Range along the W. coast. Of these, the three peaks of Apo, Malindang, and Matutum are active volcanoes.

The highest peaks in the Archipelago are: Apo (volcano, 3,144 m.) and Malindang (volcano, 2,855 m.), both in Mindanao; Canlaon or Malaspina (volcano, 2,498 m.), in Negros; Halcón (2,683 m.) in Mindoro; Mayon (volcano, 2,413 m.), Pulog (2,909 m.), Data (volcano, 2,245 m.), Banajao or Majaijai (volcano, 2,251 m.), in Luzon; Anuyao (2,477 m.), in Palawan.

Rivers. The principal rivers in Luzon Island are the *Rio Grande de Cagayan* (220 m.) and the *Rio Grande de la Pampanga.* The former has its source in the mountains of Caraballos Sur in Middle Luzon and, running N., empties itself into the sea at Aparri. Each year the river gets flooded in the rainy season, inundating an extensive plain which is a well-known tobacco-producing region. This river is navigable by native boats for 160 m. from its mouth and forms the chief means of conveyance for Cagayan Province and for Isabela Province higher up on its course. Pampanga also has its source in the Caraballos Sur, but runs in the opposite direction, towards the S., emptying itself into Manila Bay. Near its mouth it divides itself into some 20 courses which run through a delta region, well known on account of its production of rice and sugar-cane. The other rivers which may be mentioned in this connection are the *Rio Agno* and the *Abra.*

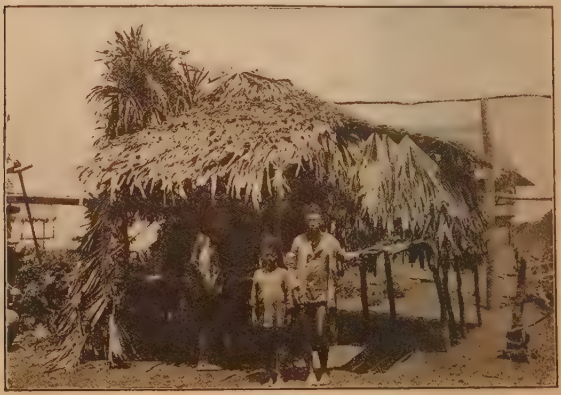
In Mindanao, the largest rivers are the *Rio Grande de Mindanao* (300 m.) and the Agusan River (240 m.). The Mindanao, starting from the mountains in the N., runs S. making many meanderings, draining several extensive plains on its way, and emptying itself into Lake Liguasan; from the lake the river takes a W. course, finally emptying itself into Illana Bay. The river is navigable for small steam launches as far as Lake Liguasan, and for small native boats 15 m. further up its course. The Agusan begins its course in the mountains in the S. and, traversing an extensive valley-plain (40 to 50 m. wide), empties itself into Butuan Bay in the N. The river is navigable for small native boats for 20 m. from its mouth.

Lakes. The largest lake in Luzon is *Laguna de Bay* (or Lake Bay). It is situated to the S.E. of Manila and is 30 m. long and 25 m. wide. It is for the most part shallow, the greatest depth being 20 ft. Bombon (or Lake Taal), situated to the S.W. of Lake Bay, is the next largest, being 17½ m. long and 12 m. wide. In the centre of the lake is an island known as the Taal Volcano.

In Mindanao, Lake Lanao is one worthy of mention. It is at an altitude of 2,200 ft. and gives rise to the Agus River, which empties itself into Iligan Bay in the N. The regions bordering on the lake are exceedingly fertile. Towards the S. of the lake there rise several volcanoes.

Inhabitants. According to the census for 1903, the inhabitants of the Philippines numbered 7,635,426 (of these, 647,740 belonged to non-Christian tribes), while in 1914, the total was estimated at 8,937,597 (including 1,100,000 non-Christians). These later figures, when divided equally among about 115,000 sq. m., which make up the total area of the Islands, show the average population per square mile to be 77. Of the entire population, nearly one-half, that is about 4 millions, live in the island of Luzon. Manila, the capital, has a population of 266,943 (1914), including 5,474 Americans, 5,912 Spaniards and other Europeans, 16,657 Chinese, and 1,960 of other nationalities.

The inhabitants may be divided into the two classes of Negritos and people of Malay origin. The former are the descendants of the original inhabitants of the Archipelago, while the latter comprise the descendants of immigrants of Malay origin, with a slight admixture of Negrito, Mongolian, or Caucasian blood. Under the Spanish régime, the inhabitants were divided for administrative purposes into the three classes of Christians, Heathens, and Mohammedans. But the American Government now divides them into the two classes of Christians and non-Christians. The non-Christians are not by any means all savage tribes, there being some among them who are quite on the same level of civilization as the Christian tribes. The Christian tribes are all civilized and are known as *Filipinos*.



A Negrito Hut.

I. Christian Tribes (Filipinos). The chief Christian tribes are: the *Tagalogs* (1,460,695; 19.3% of the total population in 1903), who live mostly in the middle regions of Luzon, with Manila as the centre; the *Visayans* (3,219,030; 42.6%) live mostly in the Visayas Islands, which form a group in the centre of the Archipelago; the *Ilocanos* (803,942; 10.6%) occupy provinces called by their own name, in the N.W. of Luzon; the *Bicol* (566,365; 7.5%) live in provinces in the S. end of Luzon; the *Pangasinans* (343,686; 4.5%) in Pangasinan Province, Luzon; the *Cagayans* (159,648; 2.1%) in Cagayan Province, N. Luzon; the *Zambalans* (48,823; 0.6%) in Zambale Province, N.W. of Manila Bay.

The Filipinos are dark-coloured, short of stature, and have well-developed muscles. They have black hair and scanty beards. Their skulls are flat on the top. They show the mixed Malay and Mongolian features. They are mild in temperament and kind to foreigners, but are easily excited and often show themselves fierce in opposition. They are apt in handicrafts. Mentally they are imaginative and fond of speculation, but show little originality. If properly educated they show themselves capable of filling any post in business, the liberal professions, or administration.

II. Non-Christian Tribes. There are about twenty-seven of these non-Christian tribes, and a great many dialects are in use among them, several times more than the number of tribes, since in the same tribe three or four different dialects are often spoken. Nowhere else in the South Seas are there found so many different tribes congregated together within a comparatively small area. The following are the more important of the non-Christian tribes:

(a) **The Negritos** (23,511). These are the aborigines of the Islands. They are of low, almost dwarfish, stature, with black skin, curly hair, flat noses, and thick lips, closely resembling the natives of Central Africa. They have a habit of shaving their heads. They wear no clothing, except a covering about the waist, live in the mountains, and are skilled in shooting birds with poisoned arrows. They live by hunting or fishery and are acquainted with only a very primitive system of agriculture. They worship the moon, but otherwise they have scarcely any religious ideas. The Negritos are fond of music, using *gansas*, bamboo flutes, and a kind of harp. Formerly these people roamed over the entire archipelago, but they have been steadily pushed back into narrower circles; their present abode being the mountainous districts on the N. and E. coasts of Luzon, N. E. parts of Mindanao, Samar Island, Negros Island, mountainous districts in Panay Island, and the central parts of Palawan Island.

(b) **The Moros** (277,547). The Moros are Mohammedans, the name being derived from the Moor. These live in the southern islands, scattered in small tribes. They are warlike people, particularly those living in the Sulu group. Many of those in the coast regions make their living as pirates and those in the interior as brigands. In features they resemble the Malay race, and in civilization some tribes are well advanced, while others are quite back-

ward. The Moros wear a Turkish cap, or something like it, while those who have visited Mecca wear a white cap called *hadjis*. As clothing, both the men and women wear tight jackets of cotton or silk. They blacken their lips and teeth with betel-nuts. Some build their houses on piles driven into the water, while others live in boats. Their piratical expeditions have for a long time proved a constant terror to towns and cities, which, as a protection against them, have been fortified and surrounded with walls. With the introduction of steamers into these waters, the Moros have found themselves unable to carry on their piratical trade with the same freedom and immunity as before, while under the American régime they are now kept under strict restraint. At present, these people live mostly in the Department of Mindanao and Sulu and in the S. end of Palawan Island.

(c) **The Igorots** (180,000). These people live mostly in the mountain provinces, round about Baguio, ranking numerically next after the Moros. There are many degrees of civilization among these people. Those living in Baguio and the province of Cervantes are, comparatively speaking, highly civilized, living in houses of European style and enjoying many educational facilities. But others, living in Bontoc Province, for instance, have been till quite recently addicted to head-hunting. Those in Benguet, Lepanto, and Ambrayan have become habituated to the peaceful pursuit of agriculture, besides engaging in gold-mining. They cultivate *camotes* (sweet-potato) and *gabi* (taro) and produce much rice. They are fond of dog-flesh, of which visitors to the market in Baguio on Sunday mornings would be powerfully reminded, by seeing hundreds of dogs brought there for sale. These people are fond of dancing and music (the flute, drum, etc., being the instruments used). The Igorots of Bontoc live in mountain regions and have a very keen sense of hearing. The men wear no clothing except a loin cloth, and the women cover their waists with cloth made from the bark of trees. The men still practise head-hunting, their exploits in this pursuit being marked by the number of tattooed lines on their faces. They live in houses roofed with nipa leaves, inside which there is a treasury room for skulls. Their food consists of rice, corn, and millet. They are superstitious and live in constant fear of the spirits of the dead.

(d) **The Ifugaos** (125,000). These live in the province called by their name in Central Luzon; they have abandoned, under the American régime, their old habit of head-hunting. They live in houses having high floors, the space under the floor being used as a store-room. They have a wonderful system of rice-cultivation (see P. 72). They are cleanly in their habits and eat their meals with wooden spoons.

(e) **The Kalingas** (76,000) also live in Central Luzon, in the province called by their own name. They have now almost given up head-hunting. These people are fond of highly decorating their persons. They have a cleanly habit of frequently washing the mats

on the floors of their houses. They cultivate rice, sweet-potatoes, and sugar-cane.

Besides the five tribes above mentioned, the Mandayas (21,642) and Manobos (20,635) of Mindanao Island are two large tribes inhabiting the districts along the upper and lower courses of the Agusan.

Chapter V. History.

The Philippine Islands were discovered in March, 1521, by Fernando Magellan (Hernando de Maghallanes), who landed in Cebu Island on April 7, in the course of his circumnavigation of the world, under commission from King Charles I. of Spain. He entered into a treaty with the chief of Cebu, with whom he crossed over to the neighbouring island of Macton, where he was killed in a skirmish. His second-in-command, Juan Sebastian Elcano, now started home with the remnant of the expedition and reached Spain on September 6, 1522, by way of the Cape of Good Hope. Several expeditions were now dispatched by Spain for the conquest of the Islands. In 1542, Ruy Lopez de Villalobos led one of these expeditions and named Leyte and its neighbouring island the Islas Filipinas, in honour of the Crown Prince of Spain, afterwards Philip II. This is the origin of the present name of the archipelago. The foundation of the Spanish rule in the Philippines was, however, laid by Miguel Lopez de Legaspi, a distinguished conquistador, whose later work in the Philippines 'entitles him to a place among the greatest of colonial pioneers.' Legaspi brought troops and priests (Augustinians). In April, 1565, he arrived at Cebu, which he made the headquarters of the Spanish rule. The capital was transferred to Iloilo, Panay Island, in 1569, when he was appointed the Governor-General of the Philippines. From here he dispatched his grandson, Juan de Salcedo, to Manila to get a foothold there, whither, in 1571, the Government was transferred from Iloilo.

Teacher and Students at Normal School.

In 1572, the Governor-General Legaspi died, and Guido de Lavezares was appointed his successor in office. In 1574, a Chinese pirate, Li Ma-hong, with sixty ships carrying 4,000 troops and 1,500 women, appeared off Manila for the conquest of that city, but was beaten off by the Spaniards. In 1577, Dominican monks arrived at the Islands for the first time. In 1578, the Governor-General, Francisco de Sande, led an expedition for the conquest of Borneo, in the course of which he got possession of Jolo and Mindanao for Spain. In the same year, Friar Domingo Salazar arrived as the first Bishop of the Philippines. He was accompanied by Jesuit fathers. From the foregoing very brief account it will be seen that the army, the civil administration, and the missionary priests all worked together to lay the foundation of the Spanish rule, and, as may be supposed, there early appeared signs of intense rivalry among the three, a state of things which continued to exist to the very end of the Spanish régime. In the early years of the 17th century, the Dutch, who were then at war with Spain, sent warships in order to capture the galleons which plied annually between Mexico and Manila, but the Dutch ships were destroyed by the Spaniards in the famous battle of Playa Honda.

In 1662, Coxinga, a leader of the defeated adherents of the overthrown Ming dynasty, who then ruled over Formosa (Taiwan), sent the Italian, Vittorio Riccio, to Manila, demanding the submission of the Philippines. A great number of Chinese then resident in Manila were forthwith massacred, on suspicion of having held treasonable correspondence with Coxinga.

In 1762, England, then at war with Spain, sent a fleet led by Admiral Cornish and General Draper to Manila to demand the submission of the city. The Spanish troops in Manila were but 600 in number, while the attacking force was 6,000 strong. After a bombardment from the ships, Manila yielded. The English entered and took possession of the city. The acting Governor-General, Archbishop Rojo, was minded to treat, but Simón de Anda y Salazar, a member of the Audiencia, became the leader of the war party and succeeded in confining the British practically to Manila. By the terms of the Treaty of Paris (Apr., 1763), the Philippines were ceded back to Spain (Jan., 1764). Salazar now became the Governor-General.

Early in the 19th century, the Spanish rulers began to take steps for the encouragement of agriculture and industry, while among the people there was a marked growth in political ideas. In 1837, Manila, which as the chief port of the Philippines had been closed to trade with all nations, that with Spain being confined to two galleons annually, was thrown open to the commerce of the world. At the same time the exportation of *abacá* (hemp), tobacco, and sugar-cane was encouraged. In 1855, Sulu, Iloilo, and Zamboanga, and in 1863, Cebu, were made open ports.

One marked feature of the colonial life in the Philippines under the Spanish régime was the imposing secular power of the Church. While the machinery of the administration was composed of the Governor-General and the body of civil officials under him, the actual power rested with the friars. These owned immense estates and were oppressive landlords. There were altogether 750 parishes throughout the Islands, and of these, 600 parishes were administered by the Spanish priesthood (Dominican, Franciscan, or Augustinian). At the time of the American occupation, 403,713 acres of the most fertile lands of the Philippines were owned by the Church, under a very oppressive system. No wonder that during the latter years of

the Spanish régime there arose throughout the Islands strong discontent, which led to repeated attempts at rebellion.

With the opening of the Suez Canal (1869) and the increased facilities of communication with Europe, many young men of the Province began to visit Europe. Returning home with enlarged views and enthusiasm for reform, their dissatisfaction with the priest-ridden state of things in the Islands became greater. After the failure of Dr. Burgos' rebellion, numerous secret societies were formed, which all aimed at securing the independence of the Islands from Spain, after the example of Mexico and the Spanish possessions in South America.

The discontent increased, with the continued oppression on the part of the Government, behind which stood the hated friars. Seeing that all peaceful means of agitation were of no avail, there was formed in 1892 a new secret society, *Kapitunan*, with Andres Bonifacio as its leader. Its object was the expulsion of the friars and the overthrow of the Spanish Government of the Philippines. In 1896, the Kapitunans headed by Emilio Aguinaldo rose in rebellion at Cavite. The insurrection at once spread through Luzon and the central islands. In August of the same year, the Government proclaimed the Philippines to be under martial law; this was followed at once by the seizure of the prominent insurgent leaders, who, confined in a small, closed room, found next day that 54 of their number had died. The survivors were at once shot at Luneta. The Spanish troops now had several encounters with the insurgents, but, though generally victorious, they found that the beaten enemy would at once reappear at another place. In 1897, the expected reinforcement from Spain was diverted for service in Cuba, and the Spanish authorities at Manila were ordered to make peace with the insurgent leaders, in view of the gravity of the situation in Cuba. By the treaty of Biac-na-bato (Dec. 15, 1897) Aguinaldo and thirty-five of his chief followers were allowed to retire to Hongkong. The name Biac-na-bato arose from the treaty having been negotiated in a cave in Bulacan Province, Luzon.

In April, 1898, the United States Government declared war against Spain and dispatched Commodore George Dewey, commander of the American Asiatic Squadron, to destroy the Spanish fleet in the Philippines. On May 1, the American squadron entered the Bay of Manila and entirely destroyed the Spanish warships stationed at Cavite. At the same time Aguinaldo was conveyed over from Hongkong to the Philippines, where he raised an army against Spain and co-operated with the American General Wesley Merrit in the taking of Manila (Aug. 13). On Dec. 10, the Treaty of Paris was signed, by which Spain agreed to cede the Philippines to America.

It is unfortunate that at this juncture there should have arisen a disagreement between the American authorities and the Filipino leaders. The latter believed, when they first welcomed the Americans as liberators of the country, that they would at once transfer

the chief authority to the native leaders and help the Filipinos to their place as an independent people among the comity of nations. When they found that their expectations were not to be realised, Aguinaldo and his associates proclaimed an independent republic (Jan. 23, 1899), called the Visayan Republic, and began military action against the Americans. The rebellion spread all over the Islands, but, with the capture of Aguinaldo (Apr. 11) and his banishment to Guam, the disturbances generally subsided, and the American régime, with all its paraphernalia of civilized administration was ushered in. At first the country was governed by a military governor, but on July 4, 1901, the first civil governor was appointed in the person of William H. Taft, afterwards President of the United States. From Sept. 1, 1900 to Oct. 16, 1907, all legislation for the Islands was enacted by the Philippine Commission, appointed by the President of the United States. But on the latter date, the first parliament of the Philippines was opened.

The following is a list of the chief executives since 1901:

William H. Taft, Civil Governor, July 4, 1901—Jan. 31, 1904.
Luke E. Wright, Civil Governor, Feb. 1, 1904—Feb. 5, 1905; Governor-General, Feb. 6, 1905—Apr. 1, 1906.
Henry C. Ide, Governor-General, Apr. 2, 1906—Sept. 19, 1906.
James F. Smith, Governor-General, Sept. 20, 1906—Nov. 10, 1909.
W. Cameron Forbes, Governor-General, Nov. 11, 1909—Sept. 1, 1913.
Francis Burton Harrison, Governor-General, Sept. 2, 1913.

Chapter VI. Political Organization.

At the head of the central government of the Islands is the Governor-General, who is the chief executive and President of the Philippine Commission. The latter, composed of three Americans and five Filipinos, appointed by the President of the United States with the approval of the Senate, constitutes the upper house, and the elective Philipine Assembly, opened first on Oct. 16, 1907, the lower house, of the legislative body. The members of the Assembly hold office for four years, and the legislative body elects two commissioners (for the same term) to the United States, who sit in the House of Representatives, with a voice but not a vote. All legislation for Christian (or regular) provinces is enacted by the Commission and the Assembly conjointly, but for non-Christian (or special) provinces it is effected by the Commission alone. Otherwise the powers of the two houses are equal, there being no special privilege for either one. The delegates (Filipinos) for the Assembly, eighty-one in number, come from thirty-five provinces and districts (including Manila but excepting Mountain Province, Nueva Vizcaya and districts under the Department of Mindanao and Sulu). All legislation, in order to become valid, has to receive the approval of the United States Congress.

The administration is in the hands of the Governor-General, assisted by the four chiefs of departments, three Americans and one Filipino,—who are appointed from the members of the Philippine

Commission. The four departments are those of the Interior, Commerce and Police, Finance and Justice, and Public Instruction.

The judiciary is composed of a Supreme Court, with a chief justice and six associate justices; 26 judicial districts, each with a justice of first instance, except the ninth district (covering Manila), which has four justices. There is also one justice of the peace and one auxiliary justice for each organized municipality.

The country is divided into 36 provinces (including the Department of Mindanao and Sulu) besides the two municipalities of Manila and Baguio. The Christian provinces are governed under the provincial government act, and the administration is carried on by the provincial board, composed of the provincial governor, the treasurer, and another member—the last-mentioned being a Filipino in most cases. The board also carries on minor cases of legislation. These officials are appointed for four years. In some provinces all the members of the provincial board are Filipinos. The non-Christian provinces, including the Department of Mindanao and Sulu, the Mountain Province and the provinces of Mindoro, Palawan, Agusan, and Nueva Vizcaya are governed under special Acts.

For purposes of local administration, the provinces are divided into municipalities. The municipality is not, necessarily, as in other countries, a city or a town, where a large body of people live collectively. In the Philippines, the term signifies in many cases a collection of villages or scattered hamlets. The municipality in these cases consists of the central *barrio* (*pablacion*) or central village, with a number of *barrios* or hamlets attached to it, at a greater or less distance from it. At the central barrio sits the municipal council, composed of 8 to 18 members, who are elected for a term of four years. Over and above the Council is the *presidente*, and under him the treasurer, who acts as deputy for the provincial treasurer.

Filipino Girls.

Non-Christian provinces are governed by the governor, under whom are the treasurer and other officials. These are all appointed by the central government.

Chapter VII. Religion and Education.

Roman Catholicism is the prevailing religion among the people of the Philippine Islands, its adherents comprising about 7/8 of the population. Since the American occupation Protestantism has been introduced. There is also an independent Filipino Catholic Church, known popularly as the Aglipayan. The Moros are believers in Mohammedanism. The rest are pagans.

Education, under the Spanish régime, was left in the hands of the friars. There was no uniform system of schools. The church exercised a strict censorship of the books and periodicals, that were allowed general circulation. When the Americans came in, they found 80% of the people illiterate. From the very first, even before peace was restored throughout the Islands, the American authorities showed the deepest interest in the enlightenment of the people. A well-known educator, Dr. Fred. W. Atkinson, was sent out in order to organize a system of schools for the Islands. In Jan., 1901, an important edict, Act LXXIV, which lies at the foundation of the modern system of education, was issued. A great number of teachers were introduced from America and native teachers were trained. English is the main foreign language taught in the schools.

All the public schools in the Philippines are under the control of the Bureau of Education at Manila. The country is divided into thirty-seven school divisions. Besides the public schools, for which figures (at the end of 1914) are given below, the Bureau of Education has under its control the following special schools: Philippine Normal School, Philippine School of Arts and Trades, Philippine School of Commerce, Philippine School for the Deaf and Blind, School of Household Industries, Central Luzon Agricultural School, Bacolor Trade School.

Public Schools.	Number of Schools.	Annual enrolment.	Average daily attendance.
Primary Schools	3,851	539,757	412,560
Intermediate Schools	309	41,888	35,563
Secondary Schools	41	7,565	6,557
Total	4,201	589,210	454,680

Besides the above-mentioned schools, there are the University of the Philippines (a Government institution) and the University of Santo Tomás (a Roman Catholic institution).

On public education the Government of the Philippines annually expends ₱7,290,000, exclusive of ₱100,000 privately contributed. This lays a tax on the inhabitants of ₱0.98 per head of the population, while the expenditure per each attendant of the schools is ₱14.49.

In the schools of the Philippines, field exercises like baseball, lawn-tennis, etc., are greatly encouraged. The schools in many

cases possess playgrounds. It is said that as a result a marked improvement is already noticeable in the physique of the young people.

Chapter VIII. Customs, Habits, and Language.

The present life of the people of the Philippines has been much influenced by the Spaniards, a large number of whom settled in the Islands in the course of 300 years. The Chinese settlers, who came in even larger numbers, also very powerfully influenced the life and habits of the Filipinos. Of late, American influence is proving a very potent factor in improving the social condition of the islanders. The distinction between the rich and the poor is very marked. The upper classes live in luxury, having adopted European ways, while the lower classes find themselves in a condition of great indigence.

The well-to-do Filipino lives in a wooden house, built in the European style, with special adaptations in the line of ventilation necessitated by the warm climate. Owing to the frequency of earthquakes, houses are rarely more than two-storied. Of late, light galvanized iron sheets as roofing material are being substituted for heavy tiles, and semi-transparent oyster shells for glass panes in the making of windows. Where there is a second story, the family occupy it only, reserving the first story as a store-room. The houses of the lower classes are of the rudest possible construction, one-storied and nipa-roofed. The floor is about 7 ft. above the ground, and the space below is used for keeping hens and pigs, which are usually fed from a hole in one corner. These houses are usually built near a stream, where the occupants perform their ablutions and wash their clothing. The furniture of a house consists of one or two rude chairs and a table. At meal-times, the food is put into a large, common plate, made of wood, which is set down on the floor. The members of the family then squat around it, 'resting the body on the heels,' and help themselves with their fingers. After the meal, they chew betel nuts. Smoking tobacco is a universal habit. Formerly children were taught to smoke. The lower classses use a large cigar, which the members of a family smoke in common, passing it from one to another. Rice is the staple article of food, but animal food is greatly relished, especially fish.

Many of the upper-class Filipinos, both men and women, dress in strictly European style. But more generally the men wear pantaloons and a coat of cotton cloth, with slippers on their feet. The women wear a coat made of cotton or hemp gauze and a skirt of printed cotton—a kind of dress which is very becoming.

Among the finer kinds of material for clothing are the *piña*, made of pine-apple fibres, and *jusi*, a silk cloth well embroidered Slippers are made of leather. The women take a pride in their long, flowing locks and small feet. Both high and low, the Filipinos are fond of music, using pianos, organs, violins, mandolins, and guitars.

That there are a great many languages or dialects spoken in the Islands has already been stated. But these languages or dialects are, with one or two exceptions, various transformations of the Malay language. These differentiations have been created owing to the difficulties of communication between one place and another. Among people of the same tribe in some cases two or three distinct dialects are spoken. For instance, the people of Naga in the Bicol Peninsula find it impossible to communicate with another set of people living in a near neighbourhood.

A Bicol Girl stripping Hemp.

Before the coming in of the Americans, Spanish was the universal language, official and commercial, and it was also the language spoken in society among the upper classes. There were even some Filipinos who spoken only Spanish, not knowing any other language. It is estimated that between 5 and 10 per cent. of the population of the Islands speak Spanish. Of late, English has come to be quite widely diffused, being taught in schools as a part of the regular curriculum, but it still remains little more than an official language. Among the native languages, the most widely spoken is the Tagalog, followed by the Visaya and the Ilocano.

Chapter IX. Agriculture and other Industries.

Agriculture is the prevailing occupation of the people of the Philippines, and besides it there is scarcely any industry of importance. The Islands are rich in timber and minerals, and their coastal seas abound in fish; yet neither forestry, nor mining, nor fishery has made much progress, and their products are as yet in-

significant. The American authorities, however, have done much to improve, or to lay the foundation for improving, the agricultural and industrial condition of the Islanders. Their first great undertaking was the purchase by the Government of the Friar lands, in order to turn them over, under certain conditions, to private individuals, either in the form of lease or purchase. They have issued forestry regulations, in order to encourage the production of timber. They have also done much to encourage the planting of sugar-cane and *abacá* (hemp), e.g. by making loans to farmers or by trying to induce American capitalists to make investments in the Islands. The American tariff was also revised (1909) in favour of imports from the Philippines.

I. Agriculture. The chief agricultural products of the Philippines are *abacá*, copra, sugar, tobacco, and rice. The export of these articles, excepting rice, constitutes 95% of the entire export of the Islands.

(a) Abacá or Manila hemp used to form ⅔ of the entire export of the Islands, till of late copra and sugar have come to assume great importance. It still, however, makes up nearly 45% of the entire product of the Islands, amounting to 132,873 metric tons (1914).

The abacá plant supplies a superior kind of material for cordage, the fibres being taken from overlapping leaf-sheaths which cover the stalk of the plant. The cordage made from this material is not only strong and durable, but can bear being wet better than any other kind; hence it is universally preferred as ropes in ships. In the market, abacá fibres are known as Manila hemp, or Manila, or simply as hemp. The plant in appearance closely resembles the banana plant, except that its stalk is generally smaller and its leaves are narrower and pointed at the end and are of a deeper blue colour. The plant grows throughout the Islands, but is cultivated largely in Southern Luzon (Ambos Camarines, Albay, and Sorsogon), Leyte, Samar, and Mindanao, and in Middle Luzon (Cavite, Laguna, and Batangas). The plant prefers a warm, moist climate and rich, deep soil, like the slope of a volcano. The natives keep the plant in the same soil for 10 to 15 years, without manuring. For the first two or three years after planting, no fibres are taken, but from the fourth year on, the fibres are gathered every four or six months. It is usual to plant 400 to 500 plants in one acre, from which there will be obtained on an average about ½ ton of dried fibres annually. This quantity will fetch 170 to 200 pesos in the market. It is believed that, deducting from this sum all the expenses by way of rent, labour, etc., there will be left a net profit of some 90 pesos. Of late, the abacá fibres, besides being exported to Great Britain and America as cordage material, have begun to be exported to Japan, France, and Switzerland, as material for making braids for hats.

For the fiscal year ending June 30, 1913, the abacá plantation area throughout the Philippines was returned at 909,849 acres (or about 12% of the total cultivated lands). Strange to say, this plant seems to flourish only in the Philippines, and all the attempts at its cultivation hitherto made in other tropical countries have met with failure.

(b) Coconut Palm. As products of the Philippines, coconuts come next in importance. While the chief coconut plantations are found in Middle Luzon, these trees are grown all over the Islands and number altogether 45,000,000 (551,557 acres). Coconuts supply not only food and drink to the natives, but they are exported for

various other purposes. Coconut-oil is widely used in the manufacture of soap and cosmetics. It is also used in cooking as a substitute for animal fat.

Coconut-palms grow best in low moist lands, though they are met with at an altitude of from 1,500 to 2,500 ft. They are raised by setting down nuts in the soil, in the proportion of 50 to an acre. The nuts are harvested, either by someone climbing up the tree and picking them by hand, or by cutting them with a knife fixed crosswise at the end of a long bamboo pole. The meat of coconuts, when dried in the sun or by fire, constitutes the copra of the market. In 1899, the copra exported from the Philippines amounted only to 14,047 metric tons, valued at $656,870, but in 1912 these figures rose to 169,342 metric tons and $16,514,749, making up nearly 33% of the entire export of the Islands. Later, owing to the consumption of copra in the Islands for making oil, its export has become somewhat less. In 1913, 4,600 tons of coconut-oil were manufactured, of which 1,300 tons were exported, the rest being consumed in the Islands. Further, 200,000 palm-trees are employed for making tuba,—a fermented sap taken from the flower buds before they blossom. Before being fermented this sap makes a refreshing drink. It is estimated that a palm-tree yields annually 47.5 gallons of sap, valued at $4.50, which makes the average yield from an acre, supposing 50 palm-trees are grown on it, 2,375 gallons or $225 in value.

(c) Sugar-cane. The Philippines enjoy an ideal climate for the growth of sugar-cane. In 1913, there were in the Philippines about 435,188 acres under sugar-cane, which area is but one-half of the lands well suited for the cultivation of the plant. In the same year there were exported from the Islands 209,183 long tons of mat and centrifugal sugar, valued at $9,491,540, being nearly 18% of the total export of the country. The total product of sugar in the Islands was 308,107 long tons.

When Magellan discovered the Islands, he found natives engaged in the sugar industry. From the kind of implements used in cultivation, it is supposed that the plant had been introduced by the Chinese from Formosa (Taiwan). The process generally employed in making sugar consists of boiling sugar juice with air-slaked lime in a kettle, removing froth and impure matter at the same time, and changing the kettle several times over; the same process is repeated till a thick mass of crude sugar is obtained, which is stored entire in an earthen jar, called a *pilon*, or wrapped up in a mat-bag, called *bayones*. These products are known in the market as pilon sugar or mat or Muscovado sugar. But for the last ten years modern sugar mills for making centrifugal sugar have been introduced, and of these there were 15 manufactories in 1914, producing daily 4,500 tons of refined sugar. One particularly worthy of mention is a mill established a few years ago at San José, Mindoro Island, by the Mindoro Development Company, which owns 100,000 hectares of land and disposes daily of 1,200 tons of sugar-cane. There are similar mills at Calamba, Laguna province, and at San Carlos, Negros Island. About ⅓ of the sugar produced is consumed in the Islands, being turned into sugar cakes called *panochas*, which are in the shape of half a coconut shell.

(d) Tobacco. In the City of Manila there are 40,000 people, mostly women, employed in tobacco factories. Other figures relating to tobacco (1913) are as follows: Area under tobacco, 170,477 acres.

Perhaps Manila tobacco is better known throughout the world than any other products of the Islands. In the latter part of the 16th century, the tobacco plant was first introduced from Mexico by a Spanish priest, and its cultivation, manufacture, and sale were placed under the strict control of the Government in 1781,—this monopoly system being maintained for about 100 years afterwards. The Government had a large tobacco factory in Manila and stationed appraisers in tobacco plantation regions, instituting a system of heavy

fines for farmers who failed to bring in as good a quality of leaves as contracted for. The monopoly at first worked well and raised abroad the high reputation of Manila tobacco, but through mismanagement the Government was finally compelled to give it up. In Spanish times, the revenue from tobacco, which amounted to $1,500,000 in the last year of the monopoly, was the chief item of Government revenue. After the abandonment of the monopoly, the Compañie General de Tobacos de Filipinas, with a capital of $2,500,000, was organized (1883). The company established a large cigar and cigarette manufactory, and came to own extensive areas of lands, which it tried to colonize with tobacco cultivators. In 1913, there were 81 cigar and cigarette factories throughout the Islands, but none of them on anything like so large a scale as the one just mentioned.

Opening Coconuts for Drying.

(e) Rice. Rice does not form an article of export in the Philippines, the production being insufficient to meet the demand in the country. It is important as being a staple of food with the people. In 1913, the total area under rice amounted to 2,820,009 acres, from which were obtained 52,140,307 bushels of rough rice, valued at $28,969,900. A large quantity of rice is now annually imported, mainly from French Indo-China, though before 1890 the native product was quite enough to meet the demands of the country. The diminution in rice-production in these years is probably due to the increase of sugar-cane and hemp (abacá)-cultivation, these being found more profitable than rice, as well as to the spread of a cattle plague (rinder-pest), which has killed about 90% of the buffaloes on which the Philippine farmers depend for rice-cultivation. The havoc done to rice plants by frequent visitations of locusts, which come in immense swarms, is another reason which apparently keeps farmers from increasing the area of rice-cultivation. The Government has already taken up the matter, and in various ways, e.g. by employing a chemical method of destroying locusts, by establishing

agricultural banks, or by the opening of Government rice lands, is trying to induce the people to cultivate enough rice at least to meet the domestic demand. The following figures show the import of rice between 1911, and 1913:

1911	223,860 tons	$6,560,630
1912	286,876 „	10,569,949
1913	197,539 „	7,940,857

Besides the things already mentioned, there are universally grown Indian corn, talo, and sweet-potato, these together with rice constituting important articles of food with the natives. At one time coffee was much cultivated, but this has now been discontinued to a large extent, owing to the ravages of insects. Indigo-growing had also to be given up owing to the competition of chemical dyes. Cotton, cacao (for making chocolate), spices of various sorts, trees for making paper, etc., are cultivated to a greater or less extent.

The method of rice-cultivation is quite primitive. The farmers do not seem to have any idea of fertilising. As a rule they raise but one crop annually, except in certain localities where two crops are raised. The transplanting of the rice seedlings is a great time in the life of a Philippine village. All the members of the family, including women and children, engage in it, and the work is accompanied by the beating of drums and music of other sorts. Among the Ifugaos rice-cultivation reaches a high state of perfection (see P. 72). The reaping is done either by women and old men who cut off the ears one by one with an implement called 'pañgaini' or 'yatab,' or by able-bodied men who use a sickle (karit) for cutting the stems to be bound into small sheaves. The rice straw is utilized but little in industries, the greater part of it being left in the field at harvest time, and subsequently burned or plowed under.

II. Cattle and Wild Game. The Philippines are rich in meadows, containing good grass for the feeding of cattle. The *Carabao* (or buffalo) is found all over the Islands, being used both as a beast of burden and furnishing milk and meat. It was a great blow to agriculture, especially rice-cultivation, that some years ago an epidemic of rinder-pest broke out, which carried off about 9/10 of the buffaloes of the Islands. The Government immediately established an institute for the study of this plague and of methods for its prevention.

In 1913, there were 1,078,901 buffaloes and 419,607 cattle. The havoc wrought by rinder-pest was not only a great blow to agriculture, but also reduced the meat supply. American beef brought over in cold storage is not relished by the natives. Pigs, goats, and sheep also flourish in the Islands. Barn-yard fowls are very generally kept. Ducks, pigeons, and other species of game-birds are abundant. Among wild animals, deer and monkeys are everywhere met with.

III. Fishery. The seas of the Philippines with their exceptionally long coast lines offer great promise for the fishery industry. It is known already that in these waters there flourish 1,600 species of fish, and yet new species are constantly being discovered. Nearly all the people of these Islands make fish an important article of food and consume annually about 500,000 tons of it. In Manila alone 20,000 to 30,000 lb. of fresh fish are consumed daily. Among the

kinds of fish commonly met with may be mentioned: anchovy, sardines, herrings, sea-bream, tunny fish, bonito, mackerel, solo, flathead, goosefish, lobster, cattle fish, mullet. Bañgos, a kind of fresh-water fish, are raised quite extensively in ponds in the neighbourhood of Manila. Sharks are caught in the seas around the Sulu Islands by the Moros, who sell the fins and tails to the Chinese.

The method of fishing consists of netting and angling; of nets there are the cast-net, set-net, seine-net, and scoop-net; all sorts of weirs, made of bamboo, are also extensively used. But the natives of the Philippines do not as a rule engage in deep-sea fishing. Pearl-fishing is engaged in mostly by the Moros, living in Moros Province, who work round about the Sulu Archipelago. In 1913, the Philippine Islands exported 292,211 kilograms of pearl shells, valued at 354,260 pesos.

IV. Forestry Products. The forestry industry offers rich sources of revenue, second only in importance to agriculture. The larger part of the forests of the Philippines are owned by the Government, being leased to individuals or corporations on certain fixed conditions. There are 2,500 species of trees found in the forests of the Islands, and of these 500 belong to the class known as hard wood trees. The great obstacle to the exploitation of forests lies in the lack of means of transportation and of the labour necessary to fell the trees. The following are the timber-making trees which are much in demand in foreign markets:

(a) Dipterocarp (lauan) Family (comprising ¾ of the forest trees in the Islands), particularly white lauan, red lauan, and *tanguile*, (the last-named resembling mahogany and much prized as interior finish and furniture wood); *guijo* and *apitong* are very durable and elastic and make good timber for the construction of wheels for vehicles and for paving floors; *yacal* is the hardest and the heaviest of the Dipterocarp Family.

(b) *Narra* (locust) Family are second in importance only to trees of the Dipterocarp Family. These trees are susceptible of a high polish and are also hard and durable, hence they are much sought after for making cabinet furniture. Of these trees the iron-wood or *ipil* is hard and heavy and becomes black in colour when exposed to air. They make good material for cabinet cases, as well as for houses and railway sleepers. *Narra* (Pterocarpus indicus, P. echinatus, and P. blancoi) are durable but easily worked. Ebony-trees are very costly and highly prized, but, though found generally in the forests, they are not plentiful. Camagon-trees are similar in quality and usefulness to ebony, except that these are of a light red colour, instead of being black like ebony. Molave-trees are hard and durable and so highly prized that they have obtained the title of 'the queen of woods.' They are never eaten into by ants or other insects.

(c) Palms (especially the Palma brava) are much used as telegraph posts and stakes in general. Calantas palms (Toona calantas) are used in making cigar boxes, which formerly used to be made of Spanish cedar.

Besides the above-mentioned, pines grow in mountains of high altitude, while bamboos and rattan grow abundantly everywhere.

Flowers and Fruits. Many of the flowers of the Philippine Islands are rich in fragrance. A shrub called *dama de noche* ('lady of the night') emits after nightfall an incomparably sweet smell. Also the flowers of Ilang-Ilang are so highly fragrant that they are used in making a well-known kind of perfume; besides these, champaca, jasmine, and tuberoses are also used for similar purposes.

Many kinds of bananas and pine-apples are raised; these are, however, not so good as those grown in Cuba. Oranges are plentiful and, though small, are sweet. Mangoes and mangosteens (the latter so relished by the Moros as to be called by them 'King's fruit') of a fine quality are also raised. *Chico* and *lanzon* resemble peach and plum respectively. Of late many new kinds of fruit-trees have been introduced from abroad.

V. Mining Industry. Of gold, silver, iron, etc., which are apparently found in abundance, gold is the only mineral worked to any appreciable extent; other minerals being produced only in very small quantities. Silver is obtained only as a subsidiary product of gold-mining. In 1913, the gold obtained amounted to 1,736,724 pesos, the total mineral products of the Islands for the same year being valued at 3,944,581 pesos.

The larger part of the gold-mining is done by dredging. The places where this method is used are Paracale, Gumaus, Malanguit, and Ambos Camarines. Placer-mining is practised in the Abra and the Agno; in the provinces of Pangasinan, Nueva Ecija, Taybas, Bulacan, Mindoro Is., Misamis, Surigao, and in the Agusan, Mindanao. Quartz-mining is carried out at the Colorado Mine, Masbate Island, where the daily output of gold amounts to 2,000 pesos. Among other places where gold has been obtained by natives for a long time may be mentioned Baguio (Mountain Province), Palacale (Ambos Camarines), and Aroroy (Masbate).

Besides the minerals already mentioned, copper, antimony, and coal are also known to be present. Coal veins are said to exist quite extensively, the quality of the coal varying considerably between black lignite and semi-anthracite.

VI. Manufacturing Industries. The Islands, though rich in raw materials of all sorts, have not yet succeeded in developing manufacturing industries, owing to a lack of capital and labour. Whatever there are in the line of manufactures are more or less adjuncts to agriculture, viz., tobacco factories, sugar-refining mills (see P 26), coconut-oil mills, paper manufactories, cement works, liquor manufactories. Among these, coconut-oil extraction has of late made considerable progress. It used to be quite a primitive business, the natives using only very crude machinery, worked by water power or human labour, for pressing out the oil from coconuts, till 1911 when the Philippine Vegetable Oil Co. (capital, 350,000 pesos) was started. The undertaking proved so great a success, that the output from the company's mill (with modern machinery) was not sufficient to supply all the demands from America; the export of the oil for 1913 amounting to 5,000,000 kg., valued at $1,500,000, and yielding the company the handsome profit of 60%. A little later, another company, the Visayan Refining Co. (capital, 2,000,000 pesos), with Dr. Dean Worcester, formerly the Chief of the Department of the Interior in the Philippine Government, was started at Cebu, Cebu Island.

As regards cement-making, the largest factory is the Rizal Cement Company (capital, 1,500,000 pesos), at Binañgonan, Luzon Island. There is abundant room for the growth of the company, for the annual import of cement to the Islands is valued at 1,500,000 pesos. The company's factory has a daily productive capacity of 1,000 barrels of cement.

Among the hand industries of the natives, the weaving of cloth and making of hats are the more important. In weaving, they use hemp (*abacá*), pine-apple fibres, cotton, and silk. The pine-apple fibres are known as *piña* and make a finer kind of cloth than hemp. The silk cloth made by native weavers is called *jusi*. Besides the above, there are made in the Islands various articles of furniture or of daily wear, such as mats, chairs, tables, hats, etc., with materials obtained from bamboos, palms, and rattans. As carpenters, masons and blacksmiths, the Chinese are more skilful than the Filipinos, and have hence supplanted them in these trades. Alcohol is made from the nipa palm, the annual output throught the Islands amounting to 10,000,000 gallons. The Bureau of Science has discovered a method of making sugar from the nipa palm.

Chapter X. Trade.

Foreign Trade. The foreign trade of the Philippines has made marked progress since the American occupation, more especially since 1909, when the American tariff was revised in favour of the Philippine trade. The total amounts of the imports and exports during the fiscal year ending June 30, 1915 are $41,479,861 and $50,915,061 respectively. The figures relating to the chief commodities for the same year are as follows:

Imports		Exports	
Cotton goods	$9,669,247	Abacá (hemp)	$19,469,642
Rice	5,448,301	Copra	12,394,712
Iron and steel products ...	3,993,984	Sugar	9,712,757
Meat and daily products...	2,614,188	Cigars	2,102,317
Wheat flour	1,758,404	Tobacco, other than cigars and cigarettes ...	1,589,678
Coal	1,655,314		

As the principal purchasers of the products of the Islands, the United States comes first. About 45% (viz. $23,000,000) of the total exports go to that country. The United Kingdom (16%), France (12%), Japan (7%), Spain, Hongkong, British East Indies, China, Australia, Germany, and French Indo-China following in order. While, as the chief suppliers to the Philippines, the United States again occupies the first place (with about 50%, viz. $22,000,000) and is followed by French Indo-China (12%, viz. $5,000,000), which is the chief supplier of rice, Japan (7%), United Kingdom, China (5%), Australia, Spain British East Indies, Germany, France, and Hongkong.

Domestic Trade. It is no exaggeration to say that the practical control of the domestic trade of the Philippines rests with the Chinese. Long before the coming of the Spaniards to these islands, the Chinese were already there on the spot. It is on the basis of these long-standing historical connections that they have established their present commercial supremacy. Some 33,000 Chinese now live scattered throughout the Islands, at every spot of any importance, and the network of their commercial connections gives them a power no other people can ignore. Most of them are petty traders, but not a few are possessed of a large capital and pay in the form of import duties alone several hundred thousand pesos annually.

NATIVE MILK PEDDLERS.

MANILA
Scale 1:30,000
English Mile
Kilometer
REFERENCE NUMBER
1 Plaza McKinley D.6
2 Ayuntamiento "
3 University of Santo Tomas "
4 Dominican Church "
5 Intendencia Building "
6 Cathedral of the Immaculate Conception (Roman Catholic Cathedral) D.6
7 Audiencia "
8 St. Paul's Hospital "
9 Jesuit Church "
10 Ateneo de Manila "
11 Santa Isabel College "
12 Augustinian Church "
13 Hospital of San Juan de Dios E.6
14 Franciscan Church E.6
15 Church of the Third Order "
16 Bureau of Education D.6
17 Philippine Library "
18 Recoletos Church E.7
19 Cuartel de España "
20 Ice Plant E.5
21 Estado Mayor E.6
22 Philippine School of Arts and Trades "
23 Military Division Hospital "
24 Bureau of Printing "
25 City Hall "
26 Young Men's Christian Association "
27 Germinal Tobacco Factory F.6
28 Luneta Police Station E.7
29 Captain of the Porte C.5
30 Philippine Museum D.5
31 Binondo Church "
32 Insular tobacco Factory "
33 Oriente Building "
34 Divisoria Market C.4
35 Santa Cruz Church E.5
36 Monte de Piedad "
37 Quinta Market "
38 San Miguel Church G.6
TONDO
BINONDO
STA CRUZ
QUIAPO
S. MIGUEL
S A M P A L O C
E R M I T A
M A L A T E
P A N D A C A N
P A C O
INTRAMUROS
Tondo Police Station
Chinese Hospital
San Lazaro Station
Race Course
San Lazaro Hospital
Tondo Cotton Mill
Tondo Church
Olimpic Club
Manila Tondo Station
Bilibid Prison
Oriente Tobacco Factory
Sampaloc Church
Balic-balic Cemetery
S. Sebastian Church
Reclaimed Land (Private)
Custom House
Plaza Moraga
Post Office
Colgante Bridge
Malacañan Palace
S. Miguel Brewery
Hospicio de S. José
Power House
Gas Tank
Gas Works
Normal School
Manila Club
Tabacalera Cigar Factory
Looban College
Paco Base Ball Ground
Paco Cemetery
Paco Station
Concordia College
Manila Hotel
Wallace Field
Columbia Club
Cathedral of St. Mary and St. John
University Hall
Burnham Green
Elks Club
Army and Navy Club
Central Observatory
Philippine General Hospital
Bureau of Science
Assumption College
College of Medicine
Military Plaza
Malate Church
Malate Park (Proposed)
Fort San Antonio de Abed
Singalong Station
Luneta
Real Gate
Sta Lucia Gate
Postigo Gate
Isabela Gate
Ayala Bridge
Bridge of Spain
Sunken Garden
Aquarium
Lagusnilla
Pier No. 1
Pier No. 2
Inner Basin
U.S. Army
Franciscan Sites Agency
Manila Bay
Pasig River
Estero de Binondo
Estero de Sampaloc
Estero de Quiapo
Estero de Singalong
Estero de Paco
Estero de Malate
Boundary
to Cemeterio Del Norte
to Sta Mesa and Paco
to Sta Mesa Heights and Benavides
to Caloocan
to Cavite

Route I. Manila.

Approach to Manila. The first sight of the Philippines the traveller would obtain, if he were coming from Nagasaki, Shanghai, Amoy, or Hongkong (distance 600 m. and about 40 hours' run from the latter port), is the coast of Zambales Province of the island of Luzon, to the S. of which lie the bay and city of Manila. After running for some time off the coast just mentioned and passing three or four small islands, he would see to his left a bay with an island at its entrance,—Subic Bay, containing the naval station of Olongapo—and next he would find the vessel steering towards a narrow waterway, leading into Manila Bay. This is Boca Chita, the northern and narrower of the two channels, formed by the island of Corregidor. The channel to the S. of Corregidor is Boca Grande, which is broader and shallower. On the island of Corregidor is a fortress, commanding the two channels. From the entrance to the further end, where the city of Manila is situated, is a distance of 30 m. in a straight course, the bay being 120 m. in circumference. After entering the bay, one sees towards the S.E. the naval station of Cavite. The deep-water port of Manila has a depth of 30 ft. throughout, except at the piers where it is 40 ft. deep. The port is protected by two breakwaters, which together measure 11,500 ft. in length. There are three piers, made of steel, of which the largest measures 650 ft. in length and 110 ft. in width. The Government is said to be planning to build a fourth pier, which will be larger still.

Arrival. In the outer roadstead, before a ship comes alongside the pier, she is visited by the immigration officials, who examine passengers regarding their nationality, object of visit, etc. The officials are courteous and the process of examination is not necessarily tedious. One's luggage may be left with hotel runners, who will see it through the custom-house formalities, and, when through, either they or regular transfer agents (e.g. Manila Transfer Co., De la Rama Buildings; Tel. 3459; Tel. Ad.: 'Transfer') will convey it to the hotel or any other destination. Carriages, with native drivers (*carretelas*), are also on hire: *tariff* ₱1 per hour. It is always advisable before hiring these to negotiate as to the destination and fare.

Hotels and Restaurants: There are some very good hotels in Manila, the foremost ones being

Manila Hotel, near Luneta, (Pl. D 7) Tel. 25; containing 150 rooms and 120 private bath-rooms, with Filipino Orchestra, Roof Garden, Grill Room, etc.; fitted with electric lifts, lights, and fans; it also contains a post-office; Rates ₱8–30 per day. Delmonico Hotel, 278, Palacio, Walled City, Tel. 248; Rates ₱90 and up per month. Hotel de France, Plaza Goiti, Santa Cruz, Tel. 215; Rates ₱4 and up per day. Besides the above three may be mentioned the following:

Imperial Hotel, 181, Maghallanes; La Palma, corner Real and Solana; Nevada Hotel, 109, Palacio; Oriente Hotel, 121, Real;—all in the Walled City; Metropole Hotel, Santa Cruz Bridge; Bay View Hotel, 105, Alhambra, Ermita; The Manhattan, 1133, Real, Malate; Kenwood Hotel, 1099, San Sebastian, Quiapo.

Restaurants: Manila Hotel, Grill Room; Hotel de France; Clarke's Restaurant, 2-6, Escolta, Binondo; Smith's Restaurant, Plaza Goiti, Santa Cruz. ***Cafés:*** Escolta Café, 349, San Vicente; Poodle Dog Café, 58, San Jacinto, Binondo; Palace Café, 1, Magallanes; Red Star Café, 60, Bustillos, Sampaloc.

Consulates: Argentine Republic—6, Plaza Moraga; Austro-Hungary—244, David, Binondo; Belgium—910, Indiana, Malate; Brazil—3, Plaza Moraga; Chile—Office: Compañia Tabacalera; Residence: 120, San Marcelino, Ermita; China—310, Soler, Trozo; Denmark—Hogar Building; France—924, Wright, Malate; Germany—862-872, Real, Malate; Great Britain—42, Dasmarinas, Binondo; Italy—42, Dasmarinas, Binondo; Japan—2204, Azcarraga; Liberia—793, Sta. Mesa; Mexico—212, Marques de Comillas; Netherlands—979, Muelle de la Industria; Nicaragua—7, Maghallanes, Walled City; Norway—17, Paris Building, 34, Escolta, Binondo; Peru—39, General Solano, San Miguel; Portugal—6, Escolta, Binondo; Russia—924, Wright; Spain—162, Alix, Sampaloc; Sweden—1,043, Muelle de la Industria; Switzerland—120, Dasmarinas, Binondo; Turkey—93, Escolta, Binondo.

Newspapers and Magazines: The Manila Times issued every evening except Sunday; The Manila Daily Bulletin, issued every morning except Monday; Cablenews-American, issued every morning, except Monday; Daily Announcer, issued every morning except Monday, in English, Spanish, and Tagalog. ***Weekly and Others:*** The Sunday Times; Free Press, Philippines (weekly); Colman's Weekly; O'Connell's Weekly; Far Eastern Review (a monthly journal of commerce, finance, and engineering); Philippines-Hongkong Pocket Guide (twice a year, in June and December—*Price* per copy P0.20, in enlarged book form P1, post paid P1.50); Philippine Review (Revista Filipina, a monthly publication in English and Spanish); Rosenstock's Directory (China and Manila), published annually.

Situation: Manila, the capital of the Philippine Islands, is situated in lat. 14° 36′ N. and long. 120° 58′ E., on the E. shore of Manila Bay, at the mouth of the river Pasig which flows from Lake Bay, 15 m. inland. The city has a population of about 270,000.

Manila itself is located on a plain, but with mountains in nearly all directions: to the N.E. the steep mountain of Angat, which so to speak watches over the city, to the E. a chain of active volcanoes, to the S.E. a group of soaring peaks popularly known as the 'Twelve Apostles,' and to the W., beyond the bay, Mariveles. To the N.W. Mt. Arayat may be seen at a distance of 50 m. On evenings when the setting sun shoots its long bright rays across these mountains, and their various hues change from violet to indigo blue, then to black, against a crimson background of clouds, it is a most wonderful sight, and one which no tourist should fail to see.

General Description of Manila: The city of Manila occupies low plains on both banks of the Pasig, where the latter after a flow of 15 m. from Lake Bay (Laguna de Bay) empties itself into the Bay of Manila, the highest point in the city being but 4 ft. above the sea-level. The city is intersected in all directions by canals (*esteros*), connected with the Pasig, and is fitly called the 'Venice of the Orient.' The old city is being remodelled in accordance with the

scheme drawn up by Dr. D. H. Burnham, a famous engineer of Chicago, but it will require years before the work of remodelling is thoroughly completed. The Pasig, which divides the city into two nearly equal parts, is spanned by four bridges. In the Manila of to-day may be noted three separate civilizations. In one part, that occupied by natives of the Malayan race, may be seen houses roofed with nippa leaves, and a condition of things, which in all probability represents the state of civilization prevailing in the Islands when first discovered by the Spaniards. In another quarter, i.e. in the walled city, may be seen houses and streets, with a multitude of churches, which would seem fairly to represent the civilization introduced by Spain in the 16th and 17th centuries. In yet another section, the Americanized quarter, there will be seen metalled roads and up-to-date buildings. The busiest parts of the city are found in Binondo District, N. of the river, and comprise Escolta Street, containing many American and European firms, and Rosario Street, lined by rows of flourishing Chinese shops. Inside the Walled City, S. of the river, are found government offices. San Miguel in the N. and Ermita and Malate in the S. of the city are residential quarters.

Since the city passed under the American rule, a great improvement has taken place in its hygienic conditions and communication facilities. As late as 1904, Manila had no drainage system, and in heavy rain it was no rare thing for filthy water to flood the streets, when all communication had to take place by means of boats. A short line of horse cars represented the only tramway facilities. As to railways there was a narrow-gauge railway of 120 m. between Manila and Dagupan on the N.W. coast, this being at the time the only railway in the Philippines. There was neither electric light nor gas light, oil lamps and candlesticks being the only means of illumination. There was no harbour in the proper sense of the term, and, the mouth of the Pasig being constantly filled up with sand, ships had to find anchorage several miles off. In the matter of buildings, the only considerable construction under the Spanish rule consisted of churches, of which there were multitudes—their tall spires being almost the only attraction of the city, and the sound of innumerable bells at certain hours of the day reminding one of a Spanish town of many centuries ago. Now we find a telephone system, electric light, and gas works, street tram-cars (altogether 50 m. and connecting with Fort McKinley, Malabon, Caloocan, and other resorts outside the city), waterworks and sewerage system, constabulary fire brigades and motor fire-engines. In a word, the sleepy, backward, unhealthy Manila of a dozen years ago has entered on a process of transformation into a complete up-to-date modern town.

City's Districts: Manila is divided as a result of long-time custom into several districts, which in the Spanish days were in many ways independent of each other. Streets of the same name are found in a number of districts, so that it is always advisable in

trying to remember the names of streets, to do so in connection with the district to which each belongs. It also happens that a certain street often has several names. This confusing state of things will doubtless be largely removed, when the remodelling of the streets is completed. The following are the names of the districts in Manila:

S. side of the Pasig.	*N. side of the Pasig.*
Port District, between Intramurous and the Bay.	San Nicolás, at the mouth of the Pasig, between Binondo, Tondo, and the Bay.
Intramuros or Walled City.	Tondo, between San Nicolás, Binondo, Santa Cruz, and the Bay.
Ermita, between the Pasig and Intramuros on the N., Malate on the S., and Paco on the E.	Binondo, between San Nicolás and Santa Cruz.
Pandacan, immediately E. of Paco.	Quiapo, between Santa Cruz and San Miguel.
Paco, the S. central portion of the city.	San Miguel, between Quiapo and Sampaloc.
Santa Ana, S.E. corner of the city.	Sampaloc, beyond Santa Cruz, Quiapo, and San Miguel.

History. Manila, a corruption of *Maynila* or *Maynilad*, is literally 'There is a shrubbery,' *nilad* meaning shrubbery. The city was founded in 1571, 50 years after the discovery of the Islands by Magellan. In the previous year, the Governor-General, Miguel Lopez de Legaspi, dispatched his grandson, Capt. Juan de Salcedo, with a force for the conquest of the island of Luzon. Manila was already at that time a place of considerable size. It was divided into the two districts of Manila proper and Tondo, which were governed by two *Rajahs*. One of them was Rajah Lacandola*, whose rule extended over Tondo. On landing, Captain Salcedo succeeded by peaceful means in establishing a protectorate over the districts governed by the two Rajahs. Whereupon Governor-General Legaspi arrived at Manila from Panay in the S. and proceeded at once to build a fortress, official residences, churches, garrison-barracks, etc. In the same year the City Council of Manila was organized.

* The descendants of this man are still known as the Lacandola Family and reside in the central part of Luzon. This family, as being of blood royal, was exempted during the Spanish times from the payment of all taxes, duties, or contributions whatsoever.

Manila in the course of its history, besides suffering from repeated foreign invasions, has received great damage from violent earthquakes, such as occurred in 1645, 1863, and 1880. On these occasions the city was practically destroyed, and those experiences led to the adoption of a style of architecture regarded as earthquake-proof. As a consequence, the buildings are generally large, but unattractive from an achitectural point of view.

Climate. The best and healthiest season in Manila is between the middle of November and the middle of March. From the middle of March to the middle of June, it is hot, while from that time on to the middle of November the rainy season is in progress, and the temperature, though tolerable, is not as cool as in the coolest season. The highest temperature yet on record is 103.5° Fahr.,

being the average for May, 1878, and the next highest 101.9° Fahr., being the average for May, 1912. There are no sudden and violent changes between day and night or between different seasons, and one kind of thin, cool dress would do for all the year round.

Taking the monthly average between 1885 and 1912, it is found that the hottest month of the year is May, with its 83.3° Fahr., and the coolest month January with its 76.8°. As regards humidity, we find from records of observations between 1865 and 1902, that the most humid month of the year is July, with 21 rainy days and 381 mm. of rainfall, and the driest month February with 3 rainy days and 9.8 mm.

Hygienic Conditions. Among the notable improvements in the health conditions of Manila, which have taken place under American auspices, may be noted the following:

Waterworks: The waterworks, by which the inhabitants of Manila are now supplied with clean water, were completed in July, 1908, the source of supply being found in the Montalbán Gorge (Mariquina), 25 m. inland.

Health Bureau and Science Bureau: These were established under the new régime, by inviting specialists from America for the study of diseases peculiar to the Islands and the method of their prevention. The government owns a large ice plant, which, besides supplying the market with ice at a cheap price, supplies pure distilled water for drinking purposes, which is availed of by all who have regard for health. All these things speak well for the success of the American colonial administration.

Hospitals: Chinese Hospital, 962, Sangleyes, San Lázaro; Christian Hospital, 1854, Azcarraga, Santa Cruz; Division Hospital, Corner Concepción and Arroceros, Ermita; Hospicio de San José, Convalescencia Is., San Mignel; Hospital Español de Santiago, 1819, Azcarraga, Quiapo; House of Holy Child and Settlement House, 1023, Magdalena, Trozo; La Proteccion de la Infancia (Gota de Leche), 41, San Pedro, Quiapo; The Mary L. Johnston Memorial Hospital (for women and children), 101, Quesada, Tondo; Philippines General Hospital, Taft Ave., Ermita; Saint Luke's Dispensary, 1021, Magdalena, Trozo; Saint Paul's Hospital, 98, Palacio, Walled City; Sampaloc Hospital (Branch of St. Paul's), 598, Alix, Sampaloc; San Juan de Dios Hospital, 214, Real, Walled City; San Lázaro Hospital (for treatment of Leprosy, Plague, Small-pox, Cholera, Insanity, Tuberculosis), 1739, Rizal; University Hospital, 1021, Magdalena, Trozo.

Trade Organizations:—Manila Chamber of Commerce, 121, Dasmarinas, Binondo; Manila Merchants' Association, De la Rama Building; Camara de Comercio Filipino, 61, Plaza Cervantes; China Chamber of Commerce, 50, P. C. De la Barca.

Banks:—Bank of the Philippine Islands, 10, Plaza Cervantes, Binondo; Chartered Bank of India, Australia, & China, 34, Plaza Cervantes; Hongkong & Shanghai Banking Corporation, 55, Juan Luna, Binondo; International Banking Corporation, 15-21, Plaza Moraga, Binondo; Monte de Piedad, Plaza Goiti, Santa Cruz.

Thos. Cook & Son have exceptional facilities for transacting banking and exchange business.

Games and Sports: All the national games of America have been introduced:

Baseball: Manila Professional League's ground, Nozaleda Street (from November to March, the afternoon of all Saturdays, Sundays, and holidays—entrance fee ₱1.00, 0.50, 0.20). This league comprises four teams, viz, All Army, Manila, All Filipino, and 24th Infantry. The Industrial Amateur League owns ground in Santa Cruz. (Season and days, etc., same as in the case of the Manila Professional League.)

Boxing: Olympic Club Smokers, at Palomar Park Pavilion (at least once a month,—entrance fee, ₱7.50, 5.00, 3.00.

Race Course: San Lázaro Race Track, in Santa Cruz: races taking place on the 1st Sunday of each month.

Polo: The Polo Club's ground at Pasay.

Tennis: This the most popular game among the Americans and better-class Filipinos, and tennis courts are found all over the city.

Cock Pits: Cock-fighting is a universal sport with the natives. The Americans are trying hard to stop it, both by encouraging other healthier games and by allowing the cock-fighting to take place only outside the city and on Sundays and holidays. There are 4 large pits around the city (game days, Sundays and holidays –admission fee ₱0.70, 0.20). These pits have large sheds covered with nipa roofs, accommodating from 5,000 to 10,000 people, who, comprising all classes of Filipinos, from the coolies up to wealthy merchants or landowners, engage in heavy betting,—the poorer people often losing several days' earnings for one day's pleasure.

Theatres and Cinematographs:—Theatres: Manila Grand Opera House, 881, Rizal Ave. (open only during the annual season of Italian opera, or when a troupe in the course of a tour round the world makes its appearance here).

Cinematograph Theatres: Gaiety, 630, Real, Ermita; Ideal, Plaza Goiti, Santa Cruz; Lux, Plaza Santa Cruz; Empire, Echagüe, Santa Cruz; Zorrilla, 626, Azcarraga.

Clubs: Army and Navy Club—Port District; City Club—President's address, Marcelino & Zobel; Colonial Club—365, Real, Paco; Columbia Club—573, Isaac Peral, Ermita; Elks Club—Port District; English Club—San Mercelino, Paco; Filipino Club (social)

A Monument of King Charles IV.

—1,021, Rizal; German Club (Deutscher Klub)—520, San Marcelino; Manila Athletic Association—Wallace Field Pavilion; Manila Boat Club—Isala de Proviser, San Miguel; Manila Club, Incorporated—San Mercelino, Paco; Manila Golf Club—Links at Caloocan; Manila Jockey Club—Lázaro Track, Junta Directiva, 39, Plaza Cervantes; Manila Polo Club—Real, Pasay; Manila Tennis Club—Wallace Field, Ermita; Trozo Sporting Association—Opposite Palomar Park Pavilion; University Club—52, Real, Ermita.

Sights of Interest: Manila and its environs are not without sights of interest to travellers. There are several ways of reaching those sights outside the city—canal boats, carriages, railways, electric tramways, and automobiles (roads excellent). The pride of Manila is its churches, of which the Cathedral of the Immaculate Conception is the most famous. By hiring an automobile, one may visit all the places in Manila which are worth seeing in one day.

Motor Car Excursion in Manila (suggested by Thos. Cook & Son).

1. The Walled City (morning or afternoon) .. .. 3 hrs.
2. Northern Manila (afternoon only) ... ... 3 ,,
3. Southern Manila (morning only)... ... ... 3 ,,

The rates for any of the three above-mentioned excursions, including the services of an English-speaking guide, entrance fees, and gratuities, are as follows :—

	Using low grade car.	Using high grade car.
per person in a party of two	₱6.00	₱10.50
,, three	4.25	7.25

Street Tramway: Manila enjoys a well laid out system of tramways, so that nearly all places of interest are brought within 5 to 10 minutes' walk from the street car. The lines run from one end of the city to the other, all crossing one another at the end of Escolta Street, where it meets the Bridge of Spain. In the city the cars run every 5 to 10 minutes, and outside the city every 20 minutes. Each car contains first and second class seats—*fares* ₱0.12, ₱0.10, transfer tickets being liberally supplied. As each end of the car bears the name of the terminal station towards which it is facing, it is necessary to ascertain carefully before boarding a car which way it is going.

Cars in S. District.

Cars marked	Passing through or near by
(a) 'Intramuros'	Maghallanes Drive, Walled City to Malate (b), Santa Ana (d), or Pasig (f).
(b) 'Malate'	Walled City, Aquarium, Luneta, Wallace Field, Manila Hotel, Elks and Army and Navy Clubs, Observatory, Military Plaza to Malate.
(c) 'Pasay'	Post-Office, Bagumbayan Drive, Calle Arroceros, Botanical Garden, Trade School, Y.M.C.A. Buildings, Sunken Gardens, then all the places mentioned in the case of (b) to Pasay.
(d) 'Santa Ana'	A part of Bagumbayan Drive, Nozareda Street, Methodist Church, American Cathedral, Columbia Club, Paco Cemetery, Herran Street, Paco Sta. of the Manila Railway to Santa Ana.
(e) 'Fort McKinley'	Same course as in the case of (d) as far as Santa Ana Junction Station, then over the company's own right-of-way, and stopping at San Pedro Macati (English cemetery), Guadalupe, Hancock Road to Fort McKinley (*Fare*, 1st class ₱0.22).

(f) 'Pasig' Same course as in the case of (e). From the terminal in the city leading to Pasig (*Fare*, 1st cl. ₱0.52).

Cars in N. District.

Cars marked — Passing through or near by

(g) 'Custom House' Plaza Moraga, Calle Rosario (Chinese Quarters), Philippine Museum, Plaza Binondo, Calle San Fernando, Muelle de la Industria, Captain of the Port's building to Custom House.

(h) 'Azcarraga' First course same as (g), then Calle San Fernando, Calle Madrid, Calle Clavel (or Aceiteros), Calle Sagunto, Calle Azcarraga, Calle Alix (passing by Bilibid prison, Tondo Sta. of Manila Ry., Aglipayan Church); after Calle Alix, same course as (n) to Rotonda.

(i) 'Maypajo' Same course as (g) as far as Plaza Binondo, then Calle Juan Luna or Lemery, Calle Ilaya and Calle Sande, Tondo District, Plaza Leon XIII, Mary Johnston Hospital, Tondo Church, Tondo School to Maypajo.

(j) 'Caloocan' Same course as (i), only leading further to Caloocan (*Fare*, 1st cl. ₱0.22).

(k) 'Malabon' Same course as (j), only leading further to Malabon (*Fare* 1st cl. ₱0.32).

Cars in E. District.

Cars marked — Passing through or near by

(l) 'Singalong' Same course as (c), then Bagumbayan Drive, Taft Avenue, Normal School, New Girls' Dormitory, University Hall, General Hospital, Bureau of Science and College of Medicine, Calle Herran, Calle San Marcelino, Calle San Andres, Pennsylvania Avenue (Calle Sondejas), Calle Vito Cruz, Malata District to Singalong.

(m) 'Rizal Avenue' Escolta, Plaza Santa Cruz (Santa Cruz Church), Azcarraga, Rizal Avenue, Calle Sangleys, City Nurseries, Cementerio del Norte, La Loma Church (passing by on the way Cervantes Park, San Lázaro Hospital, San Lázaro Race Track, Chinese Hospital, etc.).

(n) 'San Juan' Escolta, Plaza Goiti (passing by Monte de Piedad, Hotels Metropole & France), Calle Corriedo, Plaza Miranda (near by is Quiapo Church), Calle San Sebastian, Plaza del Carmen (near by is San Sebastian Church, known as Steel Church), Calle Alix, Rotonda, Calle Santa Mesa (Santa Mesa Station of the Manila Ry.) to San Juan.

(o) 'San Miguel' Escolta, Plaza Goiti, Calle Echagüe (Quinta Market, Hospicio de San José), Calle General Solano (San Miguel Church) to Rotonda.

(p) 'Rotonda' One of the three courses (h), (n), (o).

(q) 'San Marcelino' Santa Cruz Bridge, Bagumbayan Drive, Calle Concepción, Calle Marcelino, Paco Cemetery (passing by Y.M.C.A. Buildings, Offices of Electric Light Co., Manila Club (English), Baseball ground, Germinal and Tabacalera Cigar Factories), then same course as (d) to Santa Ana.

Sights in the City.

Note: 'Calle' and 'Plaza' are Spanish for Street and Square respectively. These are used not only in Manila but all over the Philippines.

I. Intramuros or the Walled City. The oldest part of the city is Intramuros or the Walled City (Pl. C, D 6, 7), the walls having been first built in 1590, under Governor Gomez Perez Dasmarinas. The walls, built of stone, are 2½ m. in circumference and from 20 to 30 ft. both in height and width; they are strongly bastioned and were till recently surrounded by moats, except on the N. side where they face the river Pasig. They are pierced by 5 gates,

having drawbridges, which till 1852 used to be guarded and closed at 11 p.m. The city thus protected must have afforded a good asylum to Spanish residents before the invention of modern weapons. The walls having been constantly repaired in former years, it is difficult to know which parts really date back to the original foundation. Of late they have been allowed to go to ruin, and of the five gates only three are in a tolerably good state of preservation—Parian Gate (E.), Isabela Gate (N.), and Santa Lucia Gate (W.). Inside the walls the city is 1 m. from N. to S. and ½ m. from E. to W. and contains many churches and public buildings, which claim the attention of foreign visitors.

Fort Santiago (N.W. corner; Pl. C 5, 6). Taking the main entrance for vehicles (inside the walls), facing Calle Santa Clara, at the foot of Calle Palacio, one soon comes to Plaza Moriones and then to the courtyard of the Fort proper, the enclosure being entered by an old gateway containing carvings in relief. There is another entrance-way, i.e. from outside the walls, which faces the N. end of Malecon Drive (or Bonifacio Drive; Pl. C, D 6, 7), but this is not available for vehicles.

Fort Santiago, which is at present occupied by the Headquarters of the American Army in the Philippines, stands on the site of an old native fortress, which stood here in 1570 when the Spanish for the first time visited the place. Among many historical incidents connected with the place may be mentioned a recent case of 60 Filipino leaders, who, being imprisoned in a room of the fortress on suspicion of complicity in an insurrectionary movement, were all but four suffocated in one night (Aug. 31, 1896), through heat and bad air. This incident recalls the Black Hole of Calcutta. It is not known for certain whether this room was in the fortress proper or inside the wall E. of the fortress.

Plaza McKinley (Pl. I, D 6) is a small public garden, where stands a statue of King Charles IV. (1788–1808), in commemoration of the introduction of vaccination into these islands, which took place during that king's reign. Round about the Plaza are found many of the chief public buildings of Manila.

Ayuntamiento (literally, the City Corporation; Pl. 2, D 6),—on the E. of Plaza McKinley, was formerly the City Hall, but is now provisionally occupied by the government of the Philippine Islands. The present edifice was built in 1878, from the designs of a famous Filipino architect, Señor Roxas, on the site of the original one, built in 1735, which had been destroyed by the earthquake of 1863. The stone lying at the right-hand corner of the front entrance staircase was one of the original foundation stones. On the main landing of the staircase is a statue of Juan Sebastian Elcano, who, after the death of Magellan, led the expedition safely back to Spain, thus being the first man in the world's history to circumnavigate the world. In the Marble Hall behind the statue the Philippine Assembly holds its sessions. Here are also held important audiences. The rooms on the upper story are occupied by the Secretariat to the Governor-General and other offices connected with the Philippine administration.

University of Santo Tomás (Pl. 3, D 6)—in Calle Postigo, that is behind Ayuntamiento or the City Hall. It dates back to 1611,

in which year it was founded under the auspices of the Dominican Order, by which body it is still controlled. This University is probably the oldest institution of its kind under the American flag. The Santo Tomás University contains the departments of theology, canon law, civil law, philosophy, belles-lettres, civil engineering, architecture, which are established in the University building; also the departments of medicine, physiology and pathological histology, organic and inorganic chemistry, etc., which are established in separate quarters. Attached to the University is a natural history museum, which contains collections of biological and anthropological specimens. The museum is open to the public every Sunday from 9 to 11 a.m. Inside the front gate stands a statue of the second Archbishop Miguel de Benavides, the founder of the University.

Dominican Church (Pl. 4, D 6)—to the E. of the Santo Tomás University. It was founded in 1587, but the present Gothic style building dates back only to 1870, when it was built after the design by Señor Roxas. The church is one of the very few examples of that style in the city, and it has a close, containing shrubs, which makes the approach to it exceptionally attractive. To the left of the close is the Convent of Sta. Rosa and to the right the monastery, containing cloisters, libraries, refectories, etc. The latter can be visited by men only. The three front doors of the church are very fine in design. As one enters the church, the brilliant radiance from the coloured windows is most pleasing. Note the pulpit which is made of molave and other rare native woods, and sculptured in low relief with Saints of the Dominican order. The floor in the

Cathedral of the Immaculate Conception.

church is of narra and molave. The High Altar has Saint Dominic, with Sta. Teresa and St. Antonio of Padua, to the right and left, and above a statue of Mary Magdalene. The Chapel of Our Lady of the Rosary contains a beautiful image of the Virgin and the Child, the face and hands of the former being of ivory. It is universally believed among the islanders that this statue saved the islands in 1646 from the invasion of the Dutch. In the Sacristy are several chests made of camagon wood, in which are stored the richest vestments. A visit to it may be made with one of the fathers from the monastery as guide.

Intendencia Building (Pl. 5, D 6)—close to the Dominican Church, is occupied by the treasury department of the Government. Behind the building and on the river front stands the Magellan monument.

Cathedral of the 'Immaculate Conception' (Pl. 6, D 6)—at the S. corner of Plaza McKinley, is the Metropolitan Church of Manila. It was founded in 1581, under Domingo de Salazar, the first archbishop of the Philippines, but has since been damaged several times by earthquakes; the present building was built after the earthquake of 1863. The church is largely Byzantine in style, ornate but harmonious in design, and its massive dome is the first object sighted from the sea, as the tourist approaches the port. The façade looks on Plaza McKinley; and in front stands the statue of the king, Don Carlos de Bourbon. The entrance to the church, with its three arched doorways, would remind one of St. Mark's of Venice. On both sides of the nave are numerous chapels, of which those to the left as we enter are the chapel of San Juan de Dios, next the Chapel of 'Nuestra Señora de Guia,' with the baptistry between the two; then these are followed by the Chapel of 'De las Dolores,' in which is buried Monsignor Guidi, a very distinguished Papal nuncio, who performed most notable services, soon after the American occupation. This is followed by a room used for the cathedral chapter, next to which is the sacristy, which is of lofty proportions, containing chests made of fine native wood, in which vestments are stored. A fine table of gigantic size is in the centre. To the right of the High Altar is the 'Chapel of St. Peter,' in which is buried Monsignor Ambrose Agius, a worthy successor of Monsignor Guidi as Papal delegate. The next chapel beyond the transept, and at the right, is that of the 'Sacred Heart,' to which there follow in succession the Chapel of 'Our Lady of Mercy,' the Chapel of the 'Holy Family,' and the Chapel of 'San Juan Comosino,' the last mentioned being nearest the door. Beside the latter chapel is a statue of 'Our Lady of Buen Viaje.' Of majestic proportions is the nave of the cathedral, with its numerous pillars with their gilded capitals, and the cupola high above, the domes of which are frescoed, the subjects depicted being the four evangelists. The present archbishop is the Most Reverend Jeremiah J. Harty, under whom the cathedral has been thoroughly repaired. The Cathedral may be visited in the morning or after 3 p.m. On Sundays, at 10 a.m., there

is held a service for Americans and Europeans, with a sermon in English.

Church of San Ignacio, popularly known as Jesuit Church (Pl. 9, D 6),—in Calle Arzobispo, W. part of Intramuros, is reached by alighting from an Intramuros car at Calle Beaterio. The building was completed in 1889 and is of the Greco-Roman Renaissance style. Though its outside is comparatively simple in design, the interior is most gorgeously decorated, making it undoubtedly the most beautiful place of worship in the city. The woodwork is of molave and is ornamented with exquisite carvings, done by a famous native engraver, Señor Isabelo Tampingco. Close to this church, to the N. of it, is the Palace of the Archbishop (Roman Catholic). The church can be visited in the morning up to 11 or from 3 to 6.

Ateneo de Manila (Pl. 10, D 6)—to the S. of the Jesuit Church, is a large flourishing college, maintained by the order of the Jesuits. The college was founded in 1859, and in 1881 it first conferred on its graduates the degree of Bachelor of Arts, which was in fact the first case of the kind in the Islands. The college is now attended by over a thousand students, and many well-known Filipinos now claim it as their alma mater. The college has a museum which contains many valuable specimens illustrating history, zoology, and anthropology. The public are admitted every Sunday, 9–11.30 a.m.

Audiencia (Pl. 7, D 6)—in Calle Palacio and opposite the Cathedral of the Immaculate Conception, is the highest court of justice in the Philippine Islands. ***St. Paul's Hospital*** (Pl. 8, D 6)—nearly opposite the Audiencia, is a charity hospital maintained by the Roman Catholic Church. ***College of Santa Isabel*** (Pl. 11, D 6)—in Calle Palacio, between Real and Anda; it was founded originally (1594) for the education of the orphaned daughters of Spanish officers, and is perhaps the oldest educational institution under the American flag.

Augustinian Church (Pl. 12, D 6), popularly known as the Church of San Augustin,—on the corner of Calle Real and Calle Palacio, was founded in 1571, though the present building—of the blended Romanesque and Renaissance style—dates back only to 1614. Built as an earthquake-proof edifice, the church has low arches which are unusually large, giving to the church a massive appearance. The paintings on the walls are by Atveroni, a celebrated Italian, who flourished about half a century ago. On the wall of the left transept is a painting of Japanese Christians who suffered martyrdom three centuries ago. This church is indeed a burial place and contains the remains of Legaspi and of his grandson Salcedo, both makers of Spanish Manila. Visitors are admitted up to 10 in the morning and from 3 to 7 in the afternoon.

Philippine Library (Pl. 17, D 6)—in Calle Palacio, contains a large collection of books, pamphlets, and manuscripts, relating to the Philippines, as well as to general subjects. A subscription fee is charged for taking out books; for consulting them in the reading room there is no charge. Among the treasures are Rizal's 'Noli me

tangere' in his own handwriting (see P. 49) and also his last writing on the night before the day he was shot. Open 9 a.m. to 9 p.m., excepting Sundays and holidays.

Hospital of San Juan de Dios (Pl. 13, D, E 6)—in Calle Real, between Legaspi and Murella; founded by the Dominican Order very early in the 17th century, it is probably the oldest mission hospital existing in the East.

Franciscan Church (Pl. 14, E 6)—in Calle Solana, is reached by alighting from a car at Calle Potenciana. The building is probably more than 200 years old. It is of a rather unusual Tuscan style and contains many interesting modern paintings, among others a striking one of Japanese martyrs in Nagasaki. In the church is also a statue of St. Francis,* known as 'St. Francis of Tears,' which was formerly in a private house in Paco, where it is said that it shed tears during an earthquake. The church is best seen in the early morning before 9 a.m. Near this church are the Church of the Third Order (a branch of the Franciscans; Pl. 15, D 6) and the Manila High School.

*St. Francis is also believed to have defended Manila with a drawn sword on the occasion of the invasion of Chinese pirates (1574), and is consequently known as the 'Seraphic Custodian of Manila.'

Bureau of Education (Pl. 16, E 6)—in Calle Cabildo, is the Government office having charge of public education in the Islands. In the same building is an industrial museum maintained by the Bureau, in which are exhibited various samples of handicrafts, as well as the raw materials from which these samples were made. The museum has a botanical room, where are exhibited all kinds of indigenous plants, with both the native and scientific names. The museum also contains an industrial library. The museum ordinarily keeps embroidery experts employed in making rare designs which are exhibited. Visitors are admitted during office hours, i.e. from 8 to 12 a.m.; 1 to 4 p.m. between June 15 and April 1; and 7.30 a.m. to 12.30 p.m. between April 1 and June 15.

Recoletos Church (Pl. 18, E 7)—at the corner of Calle Recoletos and Calle Cabildo, is of the Romanesque style, with a quaint belfry containing 5 bells. It is the second oldest church in Manila, having been founded in 1780. The church contains an ancient and curious organ, made by Friar Diego Cera in the beginning of the 19th century. Admission: daily, 7–9 a.m. and 3–6 p.m.

Cuartel de España (or Barracks of Spain; Pl. 19, D 7)—at the S. end of Calle Palacio, is a large building now occupied by a division of the American army.

Aquarium (Pl. D 7)—in the old bastion in the S. corner of Intramuros, is under the supervision of the Bureau of Science. The building is a substantial one-storied structure of reënforced concrete and follows the outline of the old bastion, which is that of an irregular pentagon. There are altogether 27 exhibition tanks, which are faced with plate glass and lighted by skylights and electricity; these are all on one side of a tunnel 85 metres (278 ft.) in

length and 8 metres (26 ft.) in width. The tunnel is provided with ventilators, and the tanks, which are very strong, have a capacity of 95,000 litres (25,000 gallons). There are two large tanks besides, outside the tunnel, one of which is for crocodiles and the other for large marine creatures like sharks or turtles. It is the intention of the Bureau always to have a complete display of bright-coloured fishes, sea-anemones, crabs, sea-urchins, starfishes, etc., and all such sea animals as are found in the tropical waters of the Philippines. The aquarium is believed to compare favourably with that of Honolulu. Nets and other fishing apparatus are also on exhibit. There is a flight of stone steps leading to the summit of the old Bastion, from which a fine view of the harbour, shipping, Luneta, and bay shore can be obtained.

II. Other Districts S. of the Pasig. ***Three Drives around the Walls.*** Under the American rule, the moats surrounding the walls of Intramuros have been filled up for hygienic reasons, and outside the long strip of land thus created (which is fast being converted into athletic fields), there were laid out three drives—Maghallanes Drive (Pl. D 5, 6) in the N.W., Malecon Drive (or Bonifacio Drive; C, D 6, 7) in the W., and Bagumbayan Drive (or Burgos Drive; E 6, 7), in the E., S.E., and S.

Anda Monument (Pl. C 5)—on the S. bank of the Pasig, at the N. end of Malecon Drive and near Fort Santiago, commemorates Simón de Anda (see P. 18), who carried on an obstinate resistance against the English during their occupation of Manila in 1762–1764.

Engineer Island (Pl. B 6)—at the mouth of the Pasig and close to the S. bank, contains several buildings, which are occupied by the Bureau of Navigation.

School for the Deaf and Blind (Pl. C 6)—about midway between the two ends of Malecon Drive; the present building, which is old, is only provisionally occupied. There are at present 53 pupils enrolled—29 deaf and 24 blind. Of this number 16 are girls.

Sales Agency—in Port District, behind the Manila Hotel (Pl. D 7), is a government undertaking for furnishing raw materials for the handicrafts and house industries of the Islands, and finding markets for their products. It contains an exhibit room, where are sold curios, cotton cloth, embroideries, hats, mats, baskets, etc.

Four Bridges across the Pasig. Four bridges span the river Pasig, connecting the districts in the S. with those in the N. Beginning from the river mouth, these are the Bridge of Spain (Pl. D, E 5), Sta. Cruz Bridge, Colgante Bridge—these three starting out from points near Plaza Lawton towards the N.W., N., and N.E. in a somewhat fan-like shape—and above these is the Ayala Bridge. The Bridge of Spain, though the oldest, is modern in appearance, owing to the repeated repairs it has gone through, since it was originally built early in the 17th century. It connects the N. end of Bagumbayan Drive and the E. end of Maghallanes Drive with Calle Escolta and Calle Rosario, both of which are business quarters in the N. The Sta. Cruz Bridge is entirely new, having been built

soon after the American occupation. It connects with Plaza Goiti in the N. The Colgante and Ayala bridges are new bridges on old foundations, the one known as the suspension bridge and the other as the crooked bridge. They connect with Quiapo and S. Miguel districts in the N. and N.E. respectively.

Post and Telegraph Office (Pl. E 5)—in Plaza Lawton, between the Bridge of Spain and the Sta. Cruz Bridge.

Ice and Cold Storage Plant (Pl. 20, E 5)—on the S. side of the Pasig, between the Sta. Cruz Bridge and the Colgante Bridge, is a government undertaking, for which the sum of ₱2,000,000 was originally spent (annual profits,—₱120,000). It makes ice and distilled water, its output in a large measure meeting the demand of Manila for these articles.

Botanical Garden (Pl. E 6)—near the Post-Office, the Bridge of Spain, and the Sta. Cruz Bridge, between Bagumbayan Drive and Calle Arroceros; though not large it is exceedingly well kept and contains a great variety of plants and a small menagerie. It has a bandstand, where the military band plays on certain evenings in the week. The garden owes its formation to a Spanish botanist, Sebastian Vidal y Soler, who is commemorated by a statue in the garden.

Philippine School of Arts and Trades (Pl. 22, E 6)—in Calle Arroceros, opposite the Botanical Garden. It aims at giving a technical training to boys of above 14 years of age, who have completed an elementary course in public schools.* First established under the Spanish rule in 1889, this school is coming to be a very important factor in the civilizing work being carried on by the Americans, for the Filipinos are naturally gifted for handicrafts. Articles made in the school are exhibited for sale. Admission in the forenoon. Near the school are several buildings belonging to the army—Cuartel de Infanteria (Infantry Barracks), Estado Mayor (General Staff), Division Hospital, etc.

*The course of four years comprises machine-shop practice, wood-working, wheel-wrighting, blacksmithing, ceramics, stationary engineering, automobile operation, etc., besides a normal course for the training of young men, desiring to become teachers in technical schools. No tuition fee is charged, except a deposit of 50 centavos each from students to cover loss and damage of tools during their term of training. There are over 500 pupils, many of whom do commercial work, out of school hours or in vacation time, by engaging in job work in the trades in which they are being trained, in order to pay part of their boarding expenses.

Young Men's Christian Association (Pl. 26, E 6)—in Calle Concepción, near Bagumbayan Drive and Taft Avenue. Its buildings are completely equipped for the use of American and European, as well as Filipino, students; it maintains also a boarding-house for students. Near the buildings are the City Hall and the Printing Bureau.

Germinal Tobacco Factory (Pl. 27, F 6)—near the Ayala Bridge, produces daily 200,000 cigars and 6,000,000 cigarettes. Admission in the forenoon. Another large tobacco factory—Tobacalera Cigar Factory (Pl. F 7) is located in Calle Marques de Comillas, a little S. of the Germinal Tobacco Factory.

Normal School (Pl. E 7)—in Taft Avenue, near Bagumbayan Drive, is the central training school for public school teachers; it has an industrial department. Visitors are welcomed, from 8 12 a.m., during the school year (June—March). Near the Normal School is the Temple of Music, built with the funds collected for commemorating the American soldiers and sailors who have died in the Philippines.

BURIAL NICHES IN THE PACO CEMETERY.

Paco Cemetery (Pl. F 7, 8)—in Calle Nozaleda, at the junction of Calle San Marcelino, a large cemetery constructed in 1810 after the style of the Campo Santo of an Italian city, consists of two concentric circular walls 7 or 8 ft. thick, containing 1,782 niches for the reception of caskets,—500 of these niches, in separate courts at the back, are of smaller size and intended for the remains of children; the walls are surmounted by a terrace and balustrade, and at the back, opposite the gate, is a little chapel. The niches are closed in by marble slabs, bearing customary inscriptions, while flowers or lighted candles are frequently placed before them. The space within the inner wall has been laid out into a nice little park. To the left of the main entrance, in the outer ring, is the site where José Rizal was originally buried, after his execution. A wooden cross still stands, marked R.P.J., his initials in the reversed order, in order to avoid attention being paid to his grave. His remains have been taken away by his friends and mostly distributed as talismans. The niches are rented for periods of five years, and, as the lease is not usually renewed, the bones are removed and reburied in another place, a niche thus vacated being immediately taken up by a casket containing the bones of another person. The Paco Cemetery presents a gay appearance on All Saints' Day (Nov. 1st), when,

beginning with the day before and ending with the day following, the front of each niche is decorated with flowers and sometimes with photographs, and the whole place, including the balustrade above, is lighted with innumerable candles and electric lights, while it is visited by a crowd of relatives and friends of the deceased. Near the cemetery are the Paco Baseball Ground, the Tobacalera Cigar Factory, and, opposite to the latter, the Manila Club and Manila Electric Light and Railway Co.

Paco Station (Pl. H8)—to the S.E. of the Paco Cemetery, by Calle Nozaleda and Calle Herran; from here trains start for S. Luzon.

School of Household Industries—in Calle Santa Ana; this is a government institution for giving training to Filipino women in embroidery, hat-making, and other handicrafts. It occupies a large and airy building, and spacious grounds, which afford the girls an ideal place for games and recreation. In 1914, the school sent out 126 graduates, and the articles made by the pupils brought in a revenue of ₱4,500.

Luneta Park (Pl. D7, 8)—at the W. end of Bagumbayan Drive and S. of the Walled City, is an oval-shaped park, containing a band-stand, where either the constabulary or the military band plays almost every evening. Nearly all the well-to-do people of Manila, both natives and foreigners, may be seen strolling in the park and enjoying the music and the cool breeze from the sea. The place was an execution ground under the Spanish régime. Dr. José Rizal* was shot here on Dec. 30, 1896, the spot being marked by a large monument. The Park, in accordance with Mr. D. H. Burnham's city improvement scheme, is to be removed to a new site, W. of Burnham Green. To the N.W. of Burnham Green is the Manila Hotel, and to its S.E. the Elks Club and the Army and Navy Club. To the E. of the Manila Hotel is the monument, dedicated to Legaspi and Urdaneta, the civil and ecclesiastical founders of Manila.

*Dr. José Rizal, the celebrated author and patriot of the Philippines, was born on June 19, 1861, at Calamba, near Laguna de Bay. He was of pure Tagalog extraction, the family being a well-known one in the place. The young José was an infant prodigy. He wrote poems at the age of eight. His progress in his studies was correspondingly rapid. After finishing his course at the Jesuit College, Manila, he went in 1882, when he was 21 years of age, to Madrid, Spain, in order to study medicine. In two years he finished the medical course in the Madrid University, receiving at the same time the degree of Doctor of Philosophy and that of medicine. (He had taken the course of study in philosophy and the fine arts, side by side with that in medicine.) From Madrid the young doctor went to Paris, where he pursued his studies in ophthalmology. In 1885, we find him visiting Berlin and Vienna, finally settling down for a while in Brussels, where he wrote his famous novel, '*Noli me tangere.*' In this book he exposed all the evils of the Spanish rule in the Philippines. In 1887, Dr. Rizal returned to Manila, but by his book he had become a marked man with the authorities, especially the ecclesiastics, who made his stay at home so uncomfortable that he soon went to Europe again, visiting on his way Japan and the United States. In Europe he stayed in London and Barcelona, devoting himself to scientific and literary studies, and in the latter place he completed his second novel, '*El Filibusterismo,*' a sort of continuation of the former book. Thence he came to Hongkong, in order to be near his native land, and here he devoted himself to the practice of medicine. In 1892, he returned to Manila, on the assurance of the civil

authorities that he would be allowed to live in safety, but no sooner had he landed than he was apprehended and banished to Dapitan, Mindanao, owing to the machinations of the friars. This was a time of insurrections, and he was kept in exile for four years (see P. 111), until his application to serve as a surgeon in the Spanish army in Cuba was accepted, and he was permitted to leave the Philippines for Spian. At Barcelona, however, he was again seized, on suspicion of being connected with a formidable rebellion which broke out after he had left Manila, and he was brought back to Manila, where at the Luneta he was shot at 8 a.m. on Dec. 30, 1896, after a prolonged imprisonment and notwithstanding his eloquent personal defence. Rizal's memory is worshipped by all ranks of Filipinos, and the American authorities in the Philippines have appointed the day of his execution as a public holiday throughout the Islands. One of the newly-created provinces, also, is called by his name.

Wallace Field (Pl. E 7)—E. of the present Luneta Park, is an extensive ground, reserved for the future 'Government Centre,' and at present used for holding the famous carnival fête (Feb.). In the field are the club-house of the Manila Athletic Association and the Luneta Police Station. From between Luneta Park and Burnham Green there starts a large boulevard planted with trees—Cavite Boulevard—which, when completed as far as Cavite, will be 22 m. in length.

Cathedral of St. Mary and St. John (Pl. E 7)—in Calle Isaac Peral, S. of the Wallace Field, belongs to the American Episcopal Church; the present head of the diocese is Bishop Charles H. Brent. Near the Cathedral is the Columbian Club, which is a very popular resort with American residents; both the Cathedral and the Club owe their existence largely to the efforts of Bishop Brent.

Central Observatory (Pl. E 8)—in Calle Padre Faura, which runs parallel with Calle Isaac Peral, was established in 1865 by the Jesuits. The practical founder and director for many years was Rev. F. Faura, who was famous on account of his knowledge of astronomy, seismology, and meteorology. In 1884, the Spanish Government decided to give the observatory subsidies, which enabled it to establish 14 branches all over the Islands. When the Weather Bureau* was established in 1901, the trained members of the observatory were enrolled in the civil service. The observatory is in correspondence with the meteorological observatories of Japan, China, Cochin-China, and Siam and renders a most useful service, by publishing forecasts of weather and other changes in natural phenomena.

* The present Director of the weather Bureau is Fr. José Algué; (Miguel Saderra Masó, Assistant Director and Chief of the Seismic Division; José Coronas, Chief of the Meteorological Division; Juan Comellas, Chief of the Astronomical Division).

University Hall (Pl. F 8)—in Calle Padre Faura and opposite the observatory, is the headquarters of the University of the Philippines, and in it are housed the departments of Liberal Arts, Law, and Engineering. Other departments are housed elsewhere: College of Medicine and Surgery, in Calle Herran; College of Agriculture, in Los Baños, La Laguna Province; Veterinary Medicine, in Pandacan, outside Manila City. There are enrolled in these different university departments about 750 students. Attached to the University is the School of Fine Arts which is not of University grade.

Philippine General Hospital (Pl. F 8)—in Taft Avenue, between Calle Padre Faura and Calle Herran; built in 1908–10, it has the complete equipment of an up-to-date hospital; at the dispensary attached to it, 60,000 cases were treated free in 1912; connected with it is also a school for training male and female native nurses.

Bureau of Science (Pl. F 8)—in Calle Herran, near the corner of Taft Avenue; the headquarters of the scientific work of the government, it contains laboratories, a scientific library, and large collections of specimens of natural history objects and models illustrating various sciences; Admission, 8–12 a.m. and 1–4 p.m. In the Bureau is also a collection of some 12,000 photographs of subjects connected with the Islands, of which prints will be made to order if notice is given a few days in advance. Close to the Bureau is the College of Medicine of the University of the Philippines.

Military Plaza (Pl. E 9)—at the W. end of Calle Herran, is the residence of the commanding general of the army, with the houses of the staff officers.

Fort San Antonio de Abad (Pl. F 10)—on the shore of the bay, near the S.W. corner of the city; here were landed the American troops to take possession of Manila on August 13, 1898; in the fort may be noted the great damage done by modern heavy artillery, as compared with that done by the English guns in 1762. The fort faces the Cavite Boulevard, and it is intended to turn the land about the fort and a considerable tract to the E. and S. of it into a park.

III. Districts N. of the Pasig. ***Business Centre of the City.*** Crossing the Bridge of Spain from the Intramuros side, one comes to the W. end of Calle Escolta (Pl. D, E 5), which is the centre of retail trade and full of life. Proceeding to the E. along this street, Plaza Goiti (Pl. E 5) is reached, whence two streets run further on—Calle Echagüe and Calle Carriedo. These are quarters for large European shops. Or one may take a street leading N. from the W. end of Calle Escolte, when one will come at once to Plaza Moraga (Pl. D 5) and Plaza Cervantes. These are quarters for banks and shipping agencies. In Plaza Cervantes is a quaint little monument, which commemorates George W. Hubbel (died in Manila in 1831), the first American Consul stationed in Manila. Calle Rosario (Pl. D 5), a large street leading N. from between Plaza Moraga and Plaza Cervantes, is the main avenue of the Binondo District, and is lined with rows of Chinese stores, which are adorned with their customary gorgeous sign-boards.

Muelle de la Industra (Pl. C, D 5). A street by the N. bank of the river, extending from the Bridge of Spain to the mouth of the Pasig. This is a quay where most of the ships which engage in the coasting trade of the archipelago moor, and on one side the street is lined by rows of warehouses and houses occupied by shipping agencies. All sorts of transportation, passenger or freight, local or foreign, may be arranged for. There are also the Custom-House (Pl. C, D 5) and a house called the 'Captain of the Port's' building (Pl. 29, C 5), which is now occupied by the Interisland

Express Co. and the Union Ticket and Information Co.

Plaza Binondo (or Plaza Calderon; Pl. D 5)—at the N. end of Calle Rosario. To the E. of the Plaza are the Binondo Church (Pl. 31, D 5) and the Insular Tobacco Factory (Pl. 32, D 5); in front of the church are usually found many native flower-sellers, looking for customers. In Calle Sacrista, which runs E. from the S.W. corner of the Plaza are retail shops selling hats and various straw-plait works. In Calle San Fernando, which runs W. on the other side of Calle Rosario, are shops where native women sell products of their handiwork in cotton cloth and embroideries.

Philippine Museum (Pl. 30, D 5)—S.W. of Plaza Binondo, in Calle Juan Luna, contains complete collections of objects representing the forestry of the Philippines, as well as of anthropological and ethnological specimens relating to the Mohammedan and pagan tribes; admission, 8–12 a.m. and 1–4 p.m.

Divisoria Market (Pl. 34, C 4)—near the N. end of Calle Santo Cristo and N.W. of Plaza Binondo across Estero Binondo, is a flourishing market.

Tondo Church (Pl. C 3)—near Plaza Lion XIII., which is by the bay, at the N. end of Calle Ylaya which branches off from Calle Juan Luna. At the church may be seen a bone of Dr. Rizal which is kept as a sacred relic. In the neighbourhood of the church are the Mary Johnston Hospital and the Tondo Intermediate School.

Manila (or ***Tondo***) ***Station*** (Pl. D 4)—near the W. end of Paseo Azcarraga, is the main terminal for all railways; it may be reached by street tramway (cars marked 'Azcarraga') in 20 min. from the Bridge of Spain. While all trains leave the Tondo Sta., and it is convenient to board the train here for Baguio, Sibul Springs, and other places in the N., there are other stations, where it is more convenient to take the train if bound for places in the E. or the S.; for instance, Santa Mesa Sta. (E. end of Manila, 20 min. by tramcar from the Bridge of Spain), in order to reach Montalbán or Antipolo, and Paco Sta. (S.E. end of Manila, 20 min. by tram-car from the Bridge of Spain), in order to reach Cavite, Pagsanjan, Batangas, etc.

Bilibid Prison (Pl. F 4)—in Paseo Azcarraga; the buildings cover altogether some 20 acres, the wards radiating from a central tower, and hold usually some 3,000 inmates; these buildings date back to Spanish times. Attached to the prison are a hospital, a school, and an industrial department. Visitors may attend the daily retreat at 4.30 p.m.; Sales-room of the Industrial Department open from 8–12 a.m. and 1–4 p.m.

Cervantes Baseball Field—in Avenida Rizal, where it is joined by Calle Sangleyes; here between November and May contests are held by the Industrial League. To the N. of the baseball field is the ***San Lázaro Hospital*** (Pl. E 3), which is a government institution for the treatment of contagious diseases and the insane. This hospital was founded in 1633. Going further N. one comes to the Racecourse (Pl. F 2), where horse races are held on the first Sunday of the month and on holidays.

Cemen'erio del Norte—at the end of Calle Sangleyes, in the N. extremity of the city, is a garden cemetery of modern style, covering a large area, of which sections have been allotted for Americans, Filipinos, and Chinese, where may be seen tombs of distinctive styles according to the customs of the respective nationalities. In the neighbourhood of the Cemetery are some fine drives. Near the Cemetery are the Chinese Hospital and the Chapel of La Loma, which serves as a funeral church. In the parallel walls of the churchyard may be seen burial niches like those in the Paco Cemetery. Near the Chapel are the nurseries maintained by the city. Further beyond these places is the Cock Pit.

San Sebastian Church (popularly known as the 'Steel Church'; Pl. G 5)—in Plaza del Carmen, at the end of Calle Hidalgo, Quiapo. The church, completed in 1891, is an experiment in earthquake-proof construction. It is of steel and built like a battleship, of steel frames brought over from Belgium in parts. Gothic in style, its interior is elaborately ornamented with frescoes and stained-glass windows. Its tall twin towers are well-known landmarks in the city. The church is open from 7 a.m. to 10 a.m. Near the church is a girls' school, called Centro Escolar.

Plaza Rotonda (Pl. H 5)—at the end of Calle Alix, leading from the 'Steel Church,' is a square noted on account of a fountain, placed there in memory of Francisco Carriedo, who, in the 18th century, left the money which about a hundred years later was spent in constructing the original water system of Manila, on the condition that the water was to be supplied free to the poorer inhabitants.

Santa Mesa Station—near the end of Calle Santa Mesa, which runs E. from Plaza Rotonda. Going beyond the station one comes to the country, the neighbourhood of a stone bridge spanning the San Juan River being the site of a battle fought between Americans and Philippine patriots on the night of 4th Feb. 1899.

An Avenue of Trees in the Suburbs, Manila.

Malacañan Palace (the Residence of the Governor-General; Pl. G 6)—between Calle Aviles and the N. bank of the Pasig, a little above the Ayala Bridge, is a typical residence in the Spanish style of tropical architecture and is surrounded by large gardens, to which the public are admitted (also to a part of the residence). Near the Malacañan Palace are the San Miguel Brewery and the San Miguel Church.

Hospicio de San José (Pl. F 6)—on a small island in the Pasig above the Ayala Bridge and reached by a causeway from the middle of the bridge, is a Catholic charitable institution, dating back to 1792, and cares for the insane and juvenile criminals.

Quinta Market (Pl. 37, E 5)—at the N. approach to the Colgante Bridge, is a large market for victuals; among the commodities for sale, the large variety of tropical vegetables will be an object of curiosity to many visitors, moreover, the market is a good place for studying the kind of food on which the native population subsists.

Monte de Piedad (Pl. 36, E 5)—at Plaza Goiti, was a government pawnshop under the Spanish régime. It is now in charge of the Catholic Church, and, besides continuing in the pawn business, acts as a savings bank. Near it is the Santa Cruz Church.

Quiapo Church (Pl. F 5)—at Plaza Quiapo, is the parish church of a crowded district and also beloved by many of the old Manila families. The hours for visiting this church are from 6 to 8 a.m. and in the afternoon from 3 to 6.

Other Sights of Interest in the environs, which are beyond the reach of railway or tram-car, are as follows:

The Deposito and San Juan del Monte. For visiting these sights, which are in the district E. of the city limit, it is usual to alight at the terminus of the car line at the San Juan River (see P. 40) and take a road across the bridge. A little over a kilometre from the bridge, there is an old powder magazine, on a hill to the left of the road. A little further beyond this the road forks, the left-hand division leading to the new distribution reservoir of the Manila water system, the right-hand one ending at the Deposito, which is an old, disused, underground reservoir. Partly over the reservoir stands a large building, which is now occupied by the Philippine Islands Anti-Tuberculosis Society, which maintains here a sanitarium and camp. From here the visitor may return to the city by way of the village of San Juan del Monte, in which is an old church having huge buttresses to strengthen it against earthquakes.

San Francisco del Monte is a picturesque village about 4 m. N. of the city, reached by a bridle path starting from the terminus of the car line along Calle Sangleyes (see P. 40), near the entrance to the Cementerio del Norte, or by banca, from San Juan bridge, above mentioned. In the village is a ruined Franciscan church and convent, from the belfry of which may be enjoyed a good view over the surrounding country. Around the inside wall of the cloisters surrounding the courtyard of the convent is a series of panels inscribed with verses of a gloomy religious character.

MANILA

ENVIRONS
OF
MANILA
Scale 1: 800,000
English Miles
0 2 4 8 12 16
Kilometers
0 4 8 16 24 32
First Class Road
Railroad
MANILA
BAY
CAVITE
LAGUNA DE BAY
BATANGAS
RIZAL
BULACAN
PAMPANGA
TARLAC
NUEVA ECIJA
Pinambaran
S. Miguel
Candaba
Swamp
S. Ildefonso
Sibul Springs
Bustos
Angat
Norzagaray
Quingua
Bocaue
Bigaa
Sta. Maria
Guiguinto
Balagtas
Malolos
Bulacan
Calumpit
Apalit
Macabebe
Masantoc
Mexico
Arayat
Candaba
Lubao
Floridablanca
Porac
Angeles
Mabalacat
Magalang
Concepcion
Tarlac
Capas
Bamban
Camiling
Gerona
Paniqui
Moncada
Victoria
Tarlac
Gamma
Cuyapo
Aliaga
Talavera
Licab
Rizal
Gapan
San Isidro
Jaen
Cabanatuan
Zaragoza
Peñaranda
Gabaldon
Muñoz
Science Garden
Quezon
Malacañang
Manila
Binondo
Quiapo
Sampaloc
Tondo
Caloocan
Malabon
Navotas
Pasay
Parañaque
Las Piñas
Pasig
Mandaluyong
San Juan
Makati
Pateros
Taguig
Muntinlupa
Alabang
Biñan
Sta. Rosa
Cabuyao
Calamba
Los Baños
Bay
Dolores
Lucban
Tayabas
Sariaya
Mauban
Pagbilao
Atimonan
Gumaca
Lucena
Infanta
Real
Polillo
Binangonan
Antipolo
Cainta
Taytay
Morong
Baras
Tanay
Pililla
Jala-Jala
Talim
Talim
Pila
Victoria
Calauan
Nagcarlan
Liliw
Majayjay
Luisiana
Pagsanjan
Lumban
Santa Cruz
Pakil
Paete
Kalayaan
Famy
Siniloan
Mabitac
Santa Maria
Pangil
Quisao
Pass
Bosoboso
Montalban
Angono
Binangonan
Taytay
Cardona
Tanay
Baras
Morong
Rodriguez
Montalban
Norzagaray
Angat
Bustos
Plaridel
Pulilan
Calumpit
Hagonoy
Paombong
Malolos
Bulacan
Meycauayan
Marilao
Obando
Polo
Valenzuela
Malabon
Navotas
Caloocan
Quezon City
Mandaluyong
San Juan
Pasig
Pateros
Taguig
Makati
Parañaque
Las Piñas

Route II. Environs of Manila.

(A) Manila Bay, Mt. Mariveles, and Olongapo.

Manila Bay. Either for sight-seeing or picnicking a trip may be made around the Bay by hiring a launch or other craft. At the entrance to the Bay are the islands of Carabao, Fraile (or Friar), and Corregidor, on which are now being constructed modern harbour defences. Special permits from the military authorities are needed in order to visit them. Other places of interest are Cavite (see P. 77), Mariveles, where there is a quarantine station, and Sisiman Bay, where there is an abattoir.

Mt. Mariveles, a familiar sight to the W. from the city, rises to a height of about 1,400 metres from the middle of the thickly forested peninsula which forms Bataan Province. It is an extinct volcano, and its sides are thickly covered with forests. It is an ideal spot for studying tropical vegetation. The best starting point for an ascent of Mt. Mariveles is Lamao, where the Government maintains an experimental farm. This village may be reached by taking the small steamer of T. R. Yangco to Limay (leaving Manila 6.45 a.m. daily; *fare* 1st cl. ₱0.80; time, about 3 hrs.); from Limay to Lamao either by one of the native boats (time 1 to 1½ hr.) or on foot by a trail. At Limay is the Cadwallader Gibson Lumber Co.'s Sawmill. Three days should be set apart for a visit to the summit and return to Manila. The visitor should be accompanied by a guide. It is advisable to reach on the first day an altitude of 2,200 ft., where a good camping place can be found beside a small stream. The next day is spent in the climb to the summit and descent to Lamao, thus enabling the visitor to return to Manila by the same route on the third day. The great attraction one finds in climbing this mountain consists in the never-ending changes in the kinds of vegetation and 'a view the like of which can hardly be duplicated anywhere, for all three of what Agassiz termed the greatest wonders of nature—the sea, the mountains, and the tropical forest—lie before one.' (For launch service of T. R. Yangco, see P. 8).

Subic Bay and Olongapo are situated on the W. coast, a little N. of the entrance to Manila Bay. Between Manila and Olongapo steamers are run each way, three times weekly, by T. R. Yangco (time, 9 hrs.; *fare* 1st cl., ₱7). Olongapo is the chief naval station of the United States in the Far East. *Hotel:* White House Hotel, rooms 8, *rate* ₱1.50 (European plan). Points of interest are the naval yards, the floating dock, and the fort on Grand Is. For a visit to these places, permits should be obtained previously from either naval or military authorities. (For launch service of T. R. Yangco, see P. 8).

(B) From Manila to Montalbán (37 km. by rail).

Note: Besides the railway which connects Montalbán and Antipolo, the city tramway (see P. 40) extends for some 17 km. as far as Pasig, via Fort McKinley; there is also a good automobile road the whole distance, while on the Pasig, steam-launches are available daily between Manila and Pasig (see P. 8).

Suppose the traveller to take the train at one of the three

stations of Manila, i.e. Manila or Tondo Station, San Lázaro Station (3 km.), or Santa Mesa Station (6 km.), he will, after passing by the village of San Felipe Neri, soon come to *San Pedro Macati* (12 km.), where there is a church scarred with marks of an encounter between Americans and Filipinos. The town manufactures bricks, and in the surrounding regions are raised large quantities of *zacate*, a kind of grass used for hay and fresh forage. Soon after leaving the town, the ruins of the great convent of **Guadalupe** are seen to one side, the hill top on which they stand being reached after about fifteen minutes' walk from the Guadalupe Station of the tramway line, and by a short, steep climb from the carriage road. The convent was the finest in the Philippines, known far and wide as the 'Shrine of the Virgin of Guadalupe,' the original image of which had been brought from Spain. The convent was destroyed on Feb. 19, 1899 by fire caused by shells fired during the fighting between the American and Filipino forces, so that there now remain only certain portions of the walls and front arches. From these scant remnants, however, the splendour and glory of this once most famous shrine may well be imagined. The shrine was founded in 1601 by Antonio Herrera, a lay brother, who had also had a part in building the great Augustinian Church of Manila. In the convent was a library which contained many precious relics and manuscripts, but it was destroyed at the same time as the church.

RUINS OF THE GREAT CONVENT OF GUADALUPE.

Fort William McKinley (14 km.) is an extensive military reserve, on which stand buildings and quarters for housing cavalry and infantry regiments and field batteries. The buildings, particularly the officers' houses, as well as the drives, are all shaded by luxuriant, evergreen trees, among which may be seen here and there large flowers of bright colours which are to be met with only in tropical lands. Above these residences the drive commands a most extensive prospect, including Manila City in the W. and in the S. Laguna de Bay. The place is usually included in the round of an hour's automobile drive from Manila—along the picturesque River Pasig, through Fort Wm. McKinley, and back by way of Manila Bay. The best time is in the late afternoon, when the star-spangled

banner of the fort is bathed in golden sunshine, and the entire horizon in the far-off W. is one huge sheet of flaming red.

Pasig (17 km.), an ancient town and now the capital of the province of Rizal, is situated at the confluence of the Pasig River (which flows from Laguna de Bay) and the Mariquina, flowing from the N. The town of Pasig (Pop., 11,000) is a moderate-sized place and is connected with Manila by electric-car (*fare*, 32 c.). Among its sights may be mentioned an old church and convent and a high-arched stone bridge. Pasig is the terminal of an electric tramway line from Manila.

Mariquina Valley, which extends for some 15 m. to the N. of Pasig, is drained by the River Mariquina. It is walled on both sides by low hills; the E. hills, which form a part of the highland of Luzon, are higher than those of the W., the latter bordering on a wide plain which extends towards Manila. The valley forms the most fertile part of the province and is also rich in exquisite scenery.

Rizal Province. This region, which was formerly a part of Morong Province, was newly created under its present name in 1901, in memory of Dr. José Rizal. The province is bounded on the N. by Bulacan, on the E. by Tayabas, and on the S. by La Laguna and Cavite, and on the W. by Manila Bay. The inhabitants are mostly Tagalogs; about 2,500 aborigines live in mountainous districts. Morong (the former provincial name of this region) or *Ng-Moro* means, in the Tagalog tongue, the 'Place of the Moros.' Tagalog is the prevailing dialect of the province, though Spanish is also extensively used. In the environs of Manila and along Laguna de Bay people may be met with having the Chinese physiognomy. Area, 733 sq. m. Pop. 175,000 (1903).

The province is rich in timber, and there are many virgin forests in the neighbourhood of the town of Tanay, as well as in the E. and N.E. parts of the province. The parts of the forests alongside rivers have already been largely felled,—the railway sleepers and telegraph posts used in the Islands being largely obtained from this province. There are few mines. Agriculture is the chief occupation of the inhabitants. All municipalities in the province and the constabulary post at Novaliches are connected by the telephone system, 10 being connected directly with the Manila exchange, and the rest with the provincial exchange at Pasig.

Rozario (20 km.). Here a branch line starts eastwards to Antipolo (for which change trains). Between here and Montalbán there are the towns of Mariquina and San Mateo; near the latter is a monument marking the spot where in Dec., 1899 General Henry W. Lawton was killed, while leading American troops into this district.

Montalbán or Alban Mount (37 km. in 1¼ hr.; four through trains daily). From here it is about 4 m. along a fine road to the head of the gorge of the Mariquina, a part of which is occupied by the reservoir and dam (formed of concrete) of the water system of Manila. The gorge, with perpendicular walls of limestone on both sides and with hills behind them soaring to a height of from 1,300 to 1,500 ft., presents a scene of much grandeur. In order to visit the neighbourhood of the dam it is necessary to have a pass, which may be obtained by applying in advance at the Engineer's Office, City Hall, Manila.

(C) From Manila to Antipolo (44 km. by rail).

Taytay (24 km.), the first station on the Antipolo extension

after leaving Rozario, was a town of importance before the coming of the Spaniards. From here to the terminal, Antipolo, for a distance of 20 km., the train takes a winding, undulating course, showing a difficult piece of engineering, and affording at certain places some fine views of deep valleys and ragged cliffs and of Manila Bay. Just before reaching Antipolo there will be seen on the left a beautiful waterfall. Not far from Taytay is the village of Cainta, a considerable portion of the inhabitants of which show traces of Hindoo origin, reminding one of the sepoys from India, who were quartered here during the two years of the English occupation of Manila (1763–1764).

Antipolo (44 km. in 1½ hr., four through trains daily), situated on a group of hills, some 900 ft. above the sea-level, is a quaint place (one hour from Manila by automobile), whose streets or paths run up and down at sharp angles. The temperature is 10 to 15 degrees below that of Manila.

The place is celebrated on account of the shrine containing a statue of the Virgin,—'perhaps the most famous anywhere outside of Europe and the other older Christian countries,'—Nuestra Señora de Paz y Buen Viaje,* or 'Our Lady of Peace and Prosperous Voyages.' The Image stands in the niche above the great altar and is closed in in front, but may be seen from a spot behind to which visitors will be taken by the sacristan. In another place are kept robes for the Image, adorned with numerous diamonds, the value of which is stated at an enormous figure. The annual festival of the shrine takes place during April and May, when the place is visited by enormous crowds, on some important days numbering 20,000. This is the money-making season of the year for the villagers, who sell candles, religious books, and pictures, and all sorts of 'simpler delectations whether for the eye, ear, or stomach.' Antipolo also contains several baths, e.g. the Virgin's Bath and St. Joseph's Bath, supposed to have peculiar healing properties.

*This celebrated Image was brought from Acapulco, Mexico, by a newly appointed Governor-General, Juan Niño de Tabora, in 1626; on the voyage, the ship carrying it encountered a violent storm and was in great danger, but the Image calmed the tempest. The Image, already famous in Mexico, was received with great rejoicing in Manila, being placed at once in the Cathedral. Six years later, on the death of the Governor-General, a church was being built for the Image, in accordance with the terms of his will, when the Image was often found sitting among the branches of an antipolo (*artocarpus incisa*) or bread-fruit tree. Whereupon the natives tore off and carried away the leaves and branches of the tree as charms, till only the bare trunk was left standing, which the priest used as the pedestal for the Image. Thus arose the present name of 'the Virgin of Antipolo.' In 1639 when the Chinese rose in rebellion, they threw the Image into a fire, but it came out unscathed. In 1647 when the Dutch galleons invaded Cavite, it was the Image which saved the place. It crossed back and forth over the Pacific several times on board galleons, many times saving them from shipwreck, thus acquiring the name of 'Our Lady of Peace and Prosperous Voyages.' In Nov., 1904, the Image was taken to Manila for the celebration of the feast of the Immaculate Conception, when, as it was borne down the Pasig on a barge, tugged by a steamer and with hundreds of other boats en suite, immense crowds of people followed it along the banks, and on landing accompanied it amid intense excitement to the Cathedral.

Route III. From Manila to San Fernando,† the Manila-North Line.

Note: This railway traverses a large, fertile region, drained by the two large rivers of Pampanga (in the S.) and Ango (in the N.), and consisting of the four provinces of Bulacan, Pampanga, Tarlac, Pangasinan, and La Union. At present the line is open only as far as Banang (254 km. from Manila Sta.), which is a few miles from the intended terminal, San Fernando.

Caloocan (5 km.), connected by tramway with the city (see P. 40), is a town in the W. part of the Rizal Province and contains the grounds and buildings of the Manila Golf Club, and a church which was ruined during the insurrection. **Malabon**, 1 m. to the W. of Caloocan, is situated on a small, long island along the shore, connected by an old Spanish bridge with the mainland. The town contains a sugar refinery, the oldest one in the Islands, which, originally started by Chinese, is now under British control. This was, in fact, the only refinery in the Islands, till in recent years another was started by the Mindoro Development Co. There are, besides, three tobacco factories. Malabon has also a large church of a nondescript style of construction, having a Grecian front and a Byzantine body, which do not harmonise with each other. The length of the nave from the door to the altar is over 200 ft. The environs abound in salt pans and fish-breeding ponds.* **Navotas**, on a neighbouring island to the N., is a fishing village, and farther down on the same shore is the site of an old convent, whose ruined walls yet remain, and near by there is a broad stone terrace along the water's edge, apparently 'a sunset promenade.'

*Fishing is an important industry with the people of Malabon, Navotas, Caloocan, etc.; net and trap-fishing being largely practised. In the monsoon season, they make large bamboo enclosures in the shallows, where the fish, carried in with the rushing tides, get caught in large quantities.

Polo (11 km.). About 1 m. W. of Polo is Obando, where in the latter part of May the annual fiesta takes place in honour of several saints, to one of whom many childless women come to pray for offspring. A curious feature of the fiesta is the dances of dervishes. Oyster fishery is extensively carried on along the neighbouring coast.

Bigaa (26 km.). From here a branch line starts to Cabanatuan (118 km. from Manila in 4½ hrs.), capital of the province of Nueva Ecija. On this branch line lie Baliuag (44 km. from Manila), noted for the fine hats made there, and San Miguel de Mayumo (69 km. from Manila), once the capital of the province, where visitors to the famous Sibul Springs alight from the train.

Sibul Springs (13 km. from San Miguel de Mayumo: automobile, *fare* ₱1.00 per passenger; reached in about 3 hrs. from Manila by train or auto. *Hotels:* Sibul Hotel: 14 rooms; International Hotel: 25 rooms; ₱4.00 per day).

†San Fernando, the capital of La Union Province.

The baths, situated at an elevation of 155 ft. above the sea-level and in the midst of beautiful surroundings (a forest abounding in deer and wild-fowl, which make excellent game), are cold sulphur springs, transparent and efficacious for intestinal diseases, especially those of a chronic catarrhal nature. The bath rooms are in a building distinct from the hotels, and a separate common bath-tank is provided for the general use of the natives. Near Sibul are some remarkable caves, and not far away, at the town of Angat, is a famous deposit of iron ore, from which are made crude ploughshares used in the Islands.

Malolos (37 km.; Pop. 13,000); is the capital of the Bulacan Province and was the seat of the short-lived insurrectionary government established by Aguinaldo (1898).

Bulacan is bounded by Nueva Ecija on the N., Tayabas on the E., Rizal and Manila Bay on the S., and Pampanga on the W. Its E. parts are mountainous, but the region bordering on the Bay consist of low plains, which are but 4 ft. above the sea level, even at 20 m. from the coast. Deer and wild boar abound in the mountains.

Mineral Springs are found both at Sibul Springs and at Norzagaray. *Agriculture* is flourishing: rice, sugar-cane, and corn are staples, rice being the most important. This region was formerly known as the 'Garden of the Philippines.' Among industries, sugar-milling is common. in Hagonoy and environs is made a kind of cloth known as *jusi* (or *husi*) cloth, woven from the fibres of Manila plantain and pine-apple leaves. The inhabitants are mostly Tagalogs, these constituting 99 per cent; among the rest are 400 Negritos who live scattered in the mountainous districts. Area, 1,173 sq. m. Pop. 224,000 (1903).

Calumpit (46 km.) is the largest market town (Pop. 14,000) in the island of Luzon, located on the bank of the Rio Grande de Pampanga. The next station is **Apalit** between which and Arayat, higher up the river, there has been constructed the Arnedo Dike in order to protect paddy-fields and sugar-cane plantations from inundations.

San Fernando (61 km. in 2½ hrs.) is the capital city (Pop. 14,000) of the province of Pampanga. From here a branch line starts to Florida Blanca in the W. (24 km. in length), and another branch, intended to extend to Arayat at the foot of Mt. Arayat in the E., is now under construction, and when completed will take in the towns of Mexico and Santa Ana.

A View of Lingayen Street.

Pampanga is bounded on the N. by Tarlac, on the N.E. by Nueva Ecija, on the E. and S.E. by Bulacan, on the S. by Manila Bay, and on the W. by Bataan and Zambales. The larger part of the province consists of low plains, rising no higher than a few feet above the sea-level, but it has some mountains,—in the E., Mt. Arayat (1,087 metres), an extinct volcano, and in the W., several peaks rising as high as 2,000 metres. Agriculture is the chief occupation of the people, the staples being sugar-cane and rice. Among all the provinces of the Islands, Pampanga stands second in the production of sugar-cane and fifth in that of rice. The inhabitants are mostly Pampangans, the rest comprising about 1,000 Negritos and a few Tagalogs. The prevailing dialect is the Pampangan. Area, 868 sq. m. Pop. 129,754 (1903).

Dau (83 km.). From here two branch lines start, one to Camp Stotsenburg (7 km.) in the W. and the other eastwards to Magalang (9 km.) at the W. foot of Mt. Arayat.

San Miguel (113 km.) is in Tarlac Province. Here may be seen modern irrigation works, which have been constructed in order to irrigate an extensive sugar-cane plantation owned by the Tabacalera Company.

Tarlac (119 km.; Pop. 12,000) is the capital of Tarlac Province.

Tarlac Province is bounded on the N. by Pangasinan, on the E. by Nueva Ecija, on the S. by Pampanga, and on the W. by Zambales. The Province is mountainous in its W. parts, but otherwise consists of fertile plains. The Tarlac is the main river, which, running N., joins the Agno. Lake Canarem is nearly circular in shape and measures 3 km. from shore to shore. In the rainy season it overflows its banks, overgrown with grass, when usually a large number of birds' nests containing eggs are seen floating on the surface of the waters. To collect these is a favourite pastime with the people of the neighbourhood. The inhabitants are Ilocanos, Tagalogs, Pampangans, and Pangasinans, in the S. the Pampangan dialect is spoken and in the N. the Ilocano and the Pangasinan, while the Tagalog is generally spoken in towns. Non-Christian tribes number about 1,600 people. Area 1,205 sq. m. Pop. 140,000 (1903).

Paniqui (139 km.). From here start two branch lines; one, known as the Agno Valley Branch, is already open as far as Rosales (29 km. from Paniqui on the main line) in Pangasinan Province, which when completed will make Tayug its E. terminal, and the other, running W., reaches Camilling in Tarlac Province. Near Rosales are the Balungao hot springs, said to be efficacious for rheumatic complaints.

Bayambang (163 km.), in Pangasinan Province, is situated on the bank of the Agno, the second largest river of the island. Here visitors alight for Camp Gregg, a military outpost.

Dagupan (195 km. in 7 hrs. *Hotel:* Dagupan Hotel, rooms 7; rate ₱4.00 per day) is a port with a large population (20,000), located on the E. shore of Lingayen Gulf. A local centre of trade, the town assumed importance for a long time as the N. terminal of the railway. **Lingayen** (Pop. 22,000. *Hotel:* Lingayen Hotel, rooms 5; rate ₱4.00 per day), the capital of Pangasinan Province, is situated in the central part on Lingayen Gulf, 257 km. from Manila by automobile and 13 km. W. of Dagupan, (automobile available; fare, ₱0.25), where live a number of Europeans.

Pangasinan Province. Pang-asin-an means a 'country of salt,' from *panga*, region, and *asin* salt. This was the seat of a local chief, the *Kaboko*

In 1585 a missionary (presumably a member of the Augustinian order) arrived here in a launch and began his propaganda. Two years later this region was allotted to the Dominicans; but soon the progress of Christianity so annoyed Kasikis that he ordered the priests to be beheaded. Before the order was executed, however, there arrived a messenger from Chief Lacandora of Tondo commanding Kasikis to treat the priests well. Whereupon the local chief at once changed his attitude and himself received baptism, turning a scene of intended execution into one of banqueting and great rejoicing. The King of Spain afterwards conferred on Kasikis the name of Carlos. After his death, the seat of his residence came to be known as San Carlos. In Nov., 1574, a Chinese pirate, called Li Ma-hong (see P. 18), occupied a place on the Agno some 4 m. above its mouth, where, according to tradition, he built a fort and made himself for about a year master of the surrounding regions. On the other hand his fleet of 60 vessels, which had been left near San Isidro Labrador, at the mouth of the Agno, was destroyed and burnt by Salcedo; but, nothing daunted, the pirate chief built 30 new ships, and, digging a canal from the Agno to the Lingayen estuary, escaped with a few followers through the mouth of the Agno at Dagupan. It is said that, at Lingayen and along the banks of the River Agno, one frequently comes across natives, bearing distinct marks of Chinese origin, a fact traceable to those Chinese pirates of several centuries ago. Pangasinan is the Saigon of the Philippines. It heads the list in the production of rice. Of the inhabitants, 50 per cent are Pangasinans, and 40 per cent Ilocanos, the rest being composed of Tagalogs, Pampangans, Chinese, and Igorots; a few Negritos are found in the W. mountainous regions. The most commonly understood dialects are the Pangasinan and the Ilocano. Area, 1,193 sq. m. Pop. 390,900 (1903).

Mangaldan (203 km.). Between here and Baguio is maintained an automobile service (for tariff, etc., see P. 63). Mangaldan is the great indigo and dye centre. On the road to Baguio is Manaoag with its famous shrine of the patron saint of Pangasinan Province.

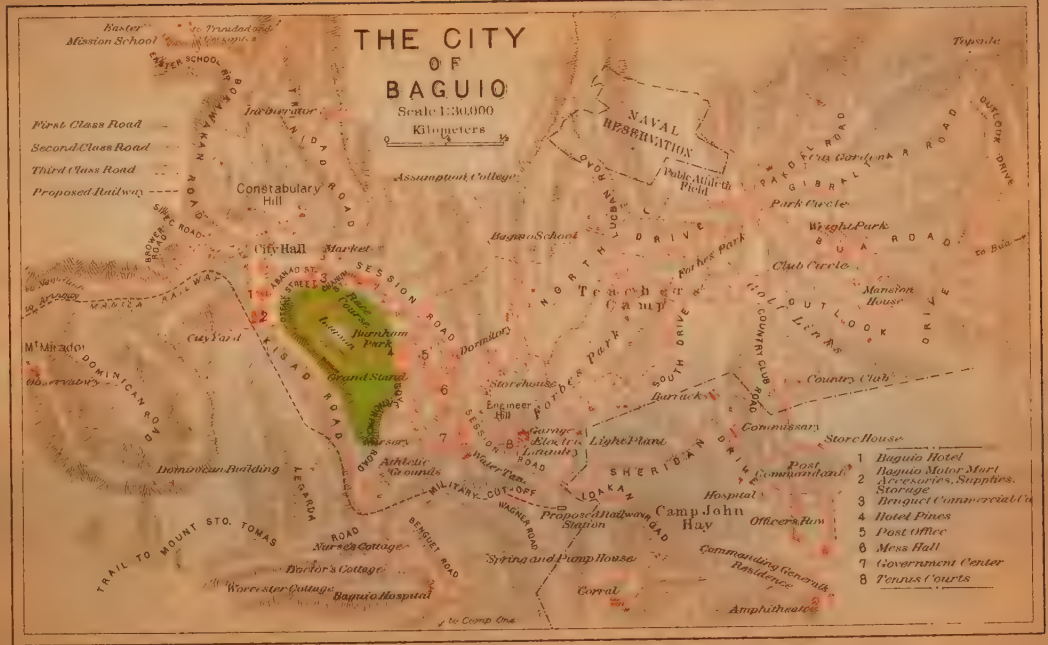
San Fibián (208 km.; Pop. 10,000). A branch line starts from here to Camp One, which is about half-way on the road to Baguio (Route IV.), the summer capital of the Philippines; between Camp One and Baguio, there is an automobile service (see P. 63).

Aringay (240 km.). From here the new Baguio branch railway is now in course of construction.

Bauang (254 km. in 9 hrs.; Pop. 10,000. *Hotel:* Bauang Hotel, rooms 3; rate ₱4 per day) is the present terminal of the railway, to be extended to San Fernando, a few miles off. The new provincial road, which takes in the town of Naguilian, traverses a mountainous region rich in romantic scenery (see P. 64).

San Fernando (Pop. 16,000. *Hotel:* La Union Hotel, rooms 5; rate ₱4) is the capital of La Union Province; it is a port of call for steamers plying between Manila and the northern provinces of Ilocos and Cagayan. There is a contract steamer service once a week (besides non-contract services); time 20 to 24 hrs.; *fare*, 1st cl., ₱18.20.

La Union is a coast province of N.W. Luzon, which is bounded on the N. by Ilocos Sur, on the E. by Amburayan and Benguet, on the S. by Pangasinan, and on the W. by the Gulf of Lingayen and the China Sea. The N.E. regions are mountainous; the highest peak is Santo Tomás 2,265 metres. There is no large river. There is excellent timber in the mountains, but they are difficult of access. A kind of light bamboo is found useful as timber for houses. The chief agricultural products are rice, tobacco, coconuts, and sugar. The province is noted for its excellent tobacco crop. The larger part of the inhabitants are Ilocanos; of the rest the Pangasinans do not exceed 8,000. In the mountainous regions live the Igorots. Area, 634 sq. m. Pop. 132,000 (1903).


THE CITY OF BAGUIO
Scale 1:30,000
Kilometers
First Class Road
Second Class Road
Third Class Road
Proposed Railway
Easter Mission School
Incinerator
Constabulary Hill
City Hall
Market
Assumption College
Baguio School
NAVAL RESERVATION
Public Athletic Field
Park Circle
Wright Park
Club Circle
Mansion House
Golf Links
Country Club
Forbes Park
Teachers Camp
Dormitory
Storehouse
Engineer Hill
Garage
Electric Laundry
Light Plant
Barracks
Commissary
Store House
Post Commandant
Hospital
Camp John Hay
Officers Row
Commanding Generals Residence
Amphitheatre
Corral
Spring and Pump House
Proposed Railway Station
Water Tank
Athletic Grounds
Nursery
Grand Stand
Burnham Park
Race Course
Lagoon
City Yard
Mt Mirador
Observatory
Dominican Building
Nurse's Cottage
Doctor's Cottage
Worcester Cottage
Baguio Hospital
Topside
to Bua
to Camp One
to Trinidad and Cosmopolis
to Aringay
to Naguilian
1 Baguio Hotel
2 Baguio Motor Mart Accesories, Supplies, Storage
3 Benguet Commercial Co
4 Hotel Pines
5 Post Office
6 Mess Hall
7 Government Center
8 Tennis Courts

Route IV. Baguio, and the Mountain Province,—Nueva Vizcaya.

Baguio may be reached by three routes: (1) The most usual route for visiting Baguio, the summer capital of the Philippine Islands, is the railway (daily train in each direction) from Manila as far as Camp One (with change at San Fabián), where begin the foot-hills of the Benguet Mountains, and whence to Baguio is a distance of 22 m. over the romantic Benguet Road by automobile. The trip is made in a single day (*fare*, Manila–Camp One–Baguio and return, 1st cl., ₱37.02). During the season, i.e. between March 1st and July 1st, special trains (through-trains between Manila and Camp One) are run twice a week, and also night trains (for the benefit of 'week-enders')—the latter leaving Manila at 10 p.m. on Fridays, and at Camp One connecting with an automobile which deposits the passengers in Baguio at 8.30 Sunday morning. Besides, there are issued during the season round trip tickets (including automobile service between Camp One and Baguio) at a reduced rate, allowing a stop-over in Baguio through the season. (2) There is another route, which runs on the same line between Manila and Mangaldan (next station beyond Dagupan; 203 km. from Manila Sta.) and thence over the Benguet automobile line, which leads the passengers directly to Baguio.

Manila Ry. Co. and Benguet Automobile Line.

from Manila		from Baguio	
6. 25 a.m. (train) Tu., Thur., & Sat.	Dep. Manila	6.45 a.m. (motor car) Mon., Wed., & Fri.	Dep. Baguio
1.38 p.m.	Arr. Mangaldan	11.30 a.m.	Arr. Mangaldan
1.45 p.m. (motor car)	Dep. ,,	12.00 noon (train)	Dep. ,,
7.00 p.m.	Arr. Baguio	7.01 p.m.	Arr. Manila.

Fares:—Railway and Automobile Tickets, 1st class throughout, ₱20.59 single. Baggage Allowance on Auto. Car:—Two pieces of light hand-baggage on each full ticket and one piece on each half ticket (for children between the ages of 3—9.), are carried free of charge on the baggage auto.

Between Camp One and Baguio, the wonderful road, which is indeed a remarkable feat of engineering, traverses regions which are extremely wild and picturesque,—largely through the Canyon of the Bued River, crossing the stream several times from one side to the other. The changes of scenery and temperature are found remarkable as one is rapidly carried from one altitude to another—Camp One 300 ft., Camp Four 1,975 ft., and Baguio 4,640 ft. Not long after leaving Camp One, the road winds up the mountain sides in a series of six switchbacks, known as the 'Zigzag,' making 'a climb of 900 ft. in a lineal distance of 2½ m.' Shortly after Camp Four the pine belt is entered, and one feels at once the invigorating effect of the ozone-charged atmosphere. Note several fine waterfalls here and there and an immense natural dam in the river formed by land-slides during a recent terrific typhoon, and a tangled steel bridge destroyed by the breaking of the dam. (3) The other road from

the W. coast is from Bauang to Baguio, via Naguilian, (automobile available throughout). This road is often chosen for the sake of its romantic scenery, consisting of tropical vegetation, high mountains, and frequent views of the China Sea. The scenery along the route is considered fully equal, if not superior, to that met with on the Benguet Road. The construction of the road was commenced in January, 1914, and completed on February 1st, 1915. The total cost from Baguio to Bauang was ₱632,000.

Manila to Bauang by rail and Naguilian Road to Baguio by automobile.

From Manila (Daily except Sundays).		From Baguio (Daily except Sundays).	
6.25 a.m. (train)	Dep. Manila.	6.30 a.m. (motor car)	Dep. Baguio.
3.41 p.m.	Arr. Bauang.	9.30 a.m.	Arr. Bauang.
3.50 p.m. (motor car)	Dep. ,,	9.39 a.m. (train)	Dep. ,,
6.15 p.m.	Arr. Baguio.	7.01 p.m.	Arr. Manila.

Fares:—Railway and Automobile Tickets, 1st class throughout, ₱16.12 single.

At Palai Camp, nearly mid-way between Naguilian and Baguio, is a good rest house, conducted by the sub-province of Benguet, fitted with beds, blankets, etc.,—meals ₱1.00 each. From Palai Camp to Baguio is a four-hours' horse ride, and some would prefer stopping overnight at this place, which is at an altitude of 3,000 ft. and in the midst of a magnificent tropical forest.

A new branch line, between Aringay (240 km. from Manila Sta.) and Baguio, via Naguilian, is now in course of construction.

Baguio (277.5 km. by road to the N. of Manila. *Hotels:* Hotel Pines, rooms 60; Baguio Hotel, rooms 30; rooms ₱6–8 per day). This is the summer capital of the Philippines and an ideal health resort. It is situated in the midst of pine-clad mountains, some of which are 8,000 ft. above the sea-level. It is a garden city, with charming vistas of valley and sea, and with all the equipments and conveniences of an up-to-date modern town. The town has a water system and sewerage, an incinerator for burning up all foul matter, and an ice-plant which also supplies distilled water for drinking purposes. Besides the hotels already mentioned there are cottages which may be rented. Every precaution is taken for providing meat and fish fresh. The city has grown to its present state in some ten years from a village of rude huts. Soon after the American régime was inaugurated, this site was chosen by the American authorities—ex-President William H. Taft, who was then at the head of affairs in the Philippines, giving his firm approval to the scheme—it being decided as early as Dec. 21, 1901 to build a modern road between Pozzorubio and Baguio, which to-day forms the main part of the road leading from Pao, at the junction on the Manila-North Road, to Baguio, including the Benguet Road. In fact, the latter portion was the most difficult as well as the most costly portion, and the actual construction proved to be infinitely more difficult than it had appeared in its initial stage. The original estimate of the cost was $75,000, but when completed in 1905 the

actual expenditure had swelled to $1,966,847 (the road through the canyon costing $75,000 per mile).

The soil is of red clay, covered with a coarse grass called *runos* (having long spear-like leaves) and ferns. Pines are the commonest trees, though oaks may be met with higher up on mountains. The task of turning this wonderfully romantic spot into a modern garden city was entrusted to Mr.. D. H. Burnham, the architect from Chicago who drew up the plans for remodelling Manila.

THE ZIGZAG ROAD OF BAGUIO.

The air is remarkably fresh and free from all kinds of microbes, and the sky is as clear as crystal, except in the afternoon when there is more or less rain; so delightfully cool is it that all through the year wood fires are welcome in the morning and evening, while at night two or three blankets are needed. There is really no hot season in Baguio, and the only rather disagreeable part of the year is between July and October when the rainy season comes on. The Weather Bureau has kept daily records of the climate of Baguio for many years, and these records show that the extremes are 78° and 42° Fahr., with an annual mean of 65°. The beautiful scenery, crisp atmosphere, and fine roads make outdoor exercise a delight. The climate is so ideal as to insure speedy recovery of those suffering from the effects of tropical heat and from tuberculosis. All things considered, no better place could have been chosen as the summer capital of the Islands.

It is needless to say that Baguio is in telegraphic communication with Manila. Its telephone system embraces not only all the public offices and most of the important houses in the place, but also Camp One. Among the more important buildings of the

place may be mentioned the Mansion House, which is the official residence of the Governor-General, the Government Offices, City Hall, Market Building (where may be seen, particularly on Sunday mornings, a singular spectacle of uncivilized natives of the neighbourhood coming to sell or purchase food, in particular live dogs), and Government garages; cottages and dormitories of officials, with a great mess hall; Government Hospital (with which is connected a series of tuberculosis cottages); School of Constabulary Officers (where young candidates fresh from America are trained); Rest House and School, belonging to the Sisters of the Assumption; Baguio School for American boys (a most excellent institution), and a Mission School for Igorot Girls, both maintained by Bishop Brent; 'Topside,' a private residence built by Mr. Forbes, who afterwards became the Governor-General; the Country Club (a temporary visitor may become a member by paying the monthly fee of $5), with its golf links (beyond which is the Polo field), tennis courts, and facilities for trap shooting; Naval Reservation; Camp John Hay, which is the army post of Baguio, with a natural open air amphitheatre (near which is the commanding general's residence), adorned with flower beds, and seating 1,000 spectators, —a most beautiful spot; Teachers' Camp (opened since 1908 for the gathering in vacation time of teachers, both American and Filipino, from all over the Islands, in order to recuperate their health and improve their minds.

Mount Mirador is a high hill lying to the W. from Baguio, crowned with a long building, the observatory of the Weather Bureau, commonly known as the Jesuit observatory, the climb to which is about 3 km. This observatory is one of the most conspicuous objects seen from all over the town and is worth visiting on account of the many delicate instruments at work. The summit, moreover, commands a prospect of great beauty,—towards the W., of the coastal plains of Luzon and of Lingayen Gulf, and beyond of the China Sea, while to the S. may be seen the Rest House (of solid concrete) of the Dominican Fathers, which has been built for the gathering of their missionary workers for rest and study.

The Major Mines, the more important of the several places where gold is obtained, are about 8 km. S. of the town by a bridle path.

Trinidad Valley, a circular valley, once the bed of a lake, lies within a short drive (5 km.), and one may see near it the Government's experimental farm, where various experiments are conducted in acclimating fruits and vegetables from the temperate zone. The products are sold on the ground or for delivery. Here American strawberries, for instance, bear fruit continuously from December to May. A short way beyond is La Trinidad, the capital of the province in Spanish times. There is also the Stock Farm where experiments are conducted in the improvement of native horses and cattle by breeding with foreign animals. Finally there is the industrial

school (Mrs. Hargreaves' School) of the Episcopal Mission, where specimens of the pupils' handiwork may be purchased as souvenirs.

Bua Valley is about 10 km. E. of Baguio, by the Bua Road (partly a carriage road and partly a bridle path). Here one may visit a pretty Igorot village, called *Antamock*, as well as the Benguet Consolidated Mining Co.'s washing plant. Several miles distant from these is the plant of the Headwater Mining Co., the largest and most complete in the district.

Mount Santo Tomás. The highest peak (2,210 metres) of Mount Santo Tomás is reached in about 4 hours by a fairly good bridle path, which starts in a S.W. direction from Legarda Road, Baguio, the return trip taking about 3 hours. But the sunrise view of the coastal plain from San Fernando to Cape Bolinao, Lingayen Gulf, and the China Sea is especially fine, and the best plan is to stop overnight (though the climb can be done easily in one day) at a rest-house in charge of a caretaker, just below and within 200 yards of the summit, where visitors are supplied with beds, blankets, drinking water, and food. This will give one a chance to see both the sunset and sunrise, and as the view is apt to be cloudy in the middle of the day, it is safer to plan to have an early morning hour at the top.

The Mountain Province outside Baguio. Good pedestrians, or those who can stand horseback travelling for two or three days in succession, would enjoy making excursions into the interior of the province. Among the chief attractions of such an excursion are the natural scenery of the province, at once beautiful and picturesque, and the primitive villagers who, away from the busy world outside, have preserved intact their simple habits and some queer customs. These people are always civil and goodnatured, but can supply little in the way of food, except chickens, eggs, or rice. For lodgings overnight 'rest-houses' are maintained at different points. It is recommended that travellers carry with them a canteen, a few simple cooking utensils, canned goods, some extra clothing, and two or three blankets (in most places to be visited the temperature is 20° to 30° below that of Manila). To carry these, porters (cargador) may be hired (it is always best to engage them beforehand). There are no professional guides, but the cargador generally serves this purpose, and, if necessary, the services of local policemen or *polistar* (inhabitants of the lower classes who serve as cargadores, etc.) may be availed of.

The Mountain Province (created in 1908) comprises the sub-provinces of Benguet, Lepanto, Amburayan, Bontoc, Ifugao, Kalinga, and Apayao, and has an area of 6,000 sq. m. and a population of about 350,000.

Benguet was created a province in 1800, with La Trinidad (formerly known as Benguet) as capital. The inhabitants are mostly Igorots, who make cattle-raising their chief occupation. They are simple and docile and have never given any trouble either to the Spaniards or the Americans.

Lepanto was first visited in 1665 by an expeditionary force headed by Salcedo. In 1850 the Spanish authorities, hearing that there was much copper found there, dispatched a prospecting party of experts. In 1884 the provincial capital was removed to Cervantes from Cayan.

Bontoc was first visited by Salcedo's expeditionary force in the year above named, and from that time till 1899 the province was governed by a Spanish military commander. All missionary efforts of the Spanish to convert the Igorots of the province seem to have produced no result. In Spanish days each Igorot above 18 years was required to pay an annual tax of Po.50 or its equivalent in rice, but the tax, owing to the cheapness of rice, was difficult to collect, and Igorot villages were often burnt and their inhabitants massacred by way of punishment.

Amburayan was created a province in 1889.

As to *Kalinga* and *Apayao* we know scarcely anything, except that these regions, inhabited by fierce head-hunting savages, were always beyond the control of the Spanish Government.

Mountains and Rivers. As its name signifies, this province contains many high mountains, of which the chief range is the Cordillera, which extends from N. to S. through the middle of the province. Mt. Pulog is about 3,000 metres above the sea-level, being the highest peak in Luzon, while the next highest is Mount Santo Tomás (see P. 67); Many rivers flow from the mountain sides through deep ravines, of which the more important are the Agno, the Bued, the Abra, the Magat, and the Amburayan. These are not navigable, and when flooded in the rainy season often prove a great hindrance to communication. A great curiosity and a remarkable feat of engineering, considering the not very high state of civilization of the natives, are the rice fields, cultivated in a series of extended terraces, on the mountain sides. In fact, these beautifully terraced paddy-fields are found all over the Islands.

Temperature. High up in the hills the temperature is about the same as in Baguio, but low down in the valleys it is as hot as in Manila. The hottest months of the year are April, May, and June, and the rainy season extends from May to November. The humidity is not uniform, differing with the altitude, location (relative to mountain ranges), and prevailing wind of each place.

Inhabitants. The chief inhabitants are Igorots, Ifugaos, Ilocanos, Kalingas, and Apayaos, each tribe having distinct characteristics

Post and Telegraph. Cervantes, Bontoc, and Sagata are in postal and telegraphic communication with other parts of the Islands, mails being delivered twice a week and requiring five to seven days to reach Bontoc.

(A) From Baguio to Cervantes. (Distance measured from City Hall, Baguio).

Baguio (1,415 metres). The Mountain Trail is reached from Baguio via two routes:

(1) via La Trinidad, starting from City Hall take Bokawakan Road, or Trinidad Road which starts at Market, to the town of La Trinidad (1,290 metres; 7 km.).

Proceed N., cross river at junction Tublay and Mountain Trails. W. trail leads to Tublay, E. trail leads to Cervantes.

(2) Mountain Trail via Pakdal: Follow automobile road leading to Park Circle on N.E. for about 2 km.

Pakdal trail branches from this road at sign-post so marked and joins Mountain Trail between 11 and 12 km. post.

Junction (1,366 metres; 11 7 km.). E. trail leads to Cervantes, W. to La Trinidad, S. to Baguio.

Acop's (14.1 km.). Acop's Place is owned by an Igorot chief of that name; provides simple meals and at reasonable rates. Very primitive accommodation.

Tabio (1,729 metres; 23.5 km). Igorot settlement ½ km. S. of trail.

Junction (1,692 metres; 24 km.). Trail for Ambuklao, Bokod, Kabayan, Buguias, and Loó leads E.; see (B) 'Tabio to Loó.'

Short-cut (26.1 km.). Very steep about ½ km. in length. Joins main trail at 27.1 km.

Short-cut (27.1 km). See preceding note.

Camp 30 (1,643 metres; 30.1 km.; 5 hrs. from Trinidad). Provincial Rest-house. Eight beds, fair accommodation. Caretaker provides meals, bedding, and forage at fixed rates. Trail to Atok settlements leads W. at N. end of stable.

Junction (33.2 km.). Trail to E. leads to Adaoay, Kabayan, Buguias, and Loó;—see (B) 'Tabio to Loó.'

Junction (50.8 km.). W. trail leads to **Haight's Place**, distance 4 km. 2 beds and 4 cots. Meals, bedding, and forage, supplied by Mr. G. P. Haight. Alt. 2,421 metres. Here vegetation

presents a different aspect, the air is bracing and the panorama glorious. A trip here from Baguio may be easily made in 4 or 5 days.

Junction (56.2 km.). S. trail leads to Haight's Place, distance 2 km.

Camp 59 (2,250 metres; 59.1 km.; 5 hrs. from Camp 30). Provincial Rest-house. Caretaker provides meals, bedding, and forage at fixed rates. 3 beds. Only for emergencies and accommodation not kept up.

Camp 88 (2,034 metres; 88.1 km.; 5 hrs. from Camp 59). Provincial Rest-house. Good accommodation. Caretaker provides meals, bedding, and forage at fixed rates.

Junction (96.8 km.). E. trail leads to Loó, N. to Cervantes, W. to Suyok. Latter joins main trail at ford on 104 km.

Mankayan (1,316 metres; 111.9 km.; 4 hrs. from Camp 88). Meals, bedding, and forage supplied at Presidencia.

Abra River (128.9 km.). Fordable except during rise of river. Aerial ferry for passengers; no charge for ferry service.

Cervantes (capital of Lepanto; 741 metres; 137 km.; 5 hrs. from Mankayan). Meals, bedding, and forage supplied by private parties, of whom there are several. Make enquiries regarding same at Lt.-Governor's office located in Provincial Building on N. Calle Principal. Telephone located in Provincial Building connecting with Bauko, Sagada, Bontoc, and other towns in Lepanto, Bontoc, Kalinga, Ifugao, and Nueva Vizcaya provinces. Post and Telegraph office located on E. Calle Gonzales. For Tagudin-Cervantes Road see (C). For Cervantes-Bontoc Road see (D).

(B) From Tabio to Loó. (Distance measured from the Junction at 24 km.).

Junction (1,692 metres). Starting from junction at 24 km. on Mountain Trail (A), take trail branching to E. First 6 km. very steep, dropping to 1,220 metres. At junction, trail to N. leads to Cervantes; S. to Baguio.

Ambuklao (7 km.) Provincial Rest-house. Shelter only. Food supplies, carriers, and forage supplies upon request to Councillor of Ambuklao. Carrier rate between Baguio and Ambuklao, ₱1.00. Primitive accommodation.

Agno River (8 km.). Fordable except during high water, horses ford at all seasons. Aerial ferry for passengers E. of Ambuklao rest-house; no charge for ferry service.

Bokod (13 km.). Passing several Igorot villages, visitors reach Bokod which is the township capital. Meals, carriers, and forage supplied by President or Secretary in Presidencia.

Daklan (17 km.). Shelter only provided in old Presidencia of Daklan, or in bath-house 1 km. S. of same. Food supplies, carriers, and forage supplied by Councillor of Daklan. Hot springs and baths located 100 metres S. of bathhouse. Industrial School, ½ km. W. of Presidencia.

River (23.5 km.). Fordable at almost all seasons.

Adaoay (24 km.). Shelter only. School N. of trail.

Adaoay River (25 km.). Fordable except during high water. Aerial ferry for passengers.

Lutas (34 km.). Township capital of Kabayan. Meals, bedding, carriers, and forage supplied by President or Secretary in Presidencia. Girls Industrial School, ½ km. N. of Presidencia.

Kabayan (38 km.). Boys' Industrial School E. of trail.

Gusaran (39.5 km.). Igorot village N. of trail.

Hot Springs (57.5 km.). Excellent hot springs immediately E. of trail.

Buguias (58 5 km.). Meals, carriers, and forage supplied upon application to President or Secretary in Presidencia, W. of trail. Industrial School E. of trail. Good hot springs 50 metres N. of Presidencia and E. of trail.

Agno River (64.5 km.). Fordable except during high water.

Agno River (66.5 km.). Fordable except during high water.

Loó Cabin (68.5 km.). Provincial Rest-house. Meals, bedding, and forage supplied by caretaker at fixed rates. Trail to Banaue branches E. from cabin.

Loó (70 km.). Igorot settlement and School of Loó barrio.

Junction (75.5 km.). Trail to N. leads to Cervantes; trail to S. to Camp 88 and Baguio; W. trail to Suyok, joining main trail to Cervantes at 104 km. Carrier rate Loó cabin to Mankayan, ₱40.

(C) From Tagudin to Cervantes. (Distance measured from municipal Presidencia, Tagudin.).

Tagudin (on the W. coast; 47 km. N. of San Fernando), Capital of Amburayan and the only seaport of the Mountain Province. Meals, bedding, and forage supplied by private hotels and restaurants. Carriers for light baggage secured upon application to President. Hotels: Tagudin Hotel; rooms 4; rate, ₱4.00. Cervantes road 1½ to 2 metres wide along entire length.

Junction (4.57 km.). Cervantes road leads E.; road N. to Vigan and Laoag.

Kimpusa (91 metres; 17.3 km.). Road Camp. Simple meals furnished by foreman. No bedding.

Suyo (18.7 km.). Fordable except during rise of river. Aerial ferry for passengers. No charge for ferry service.

Ursadan (18.9 km.). Presidencia of Suyo township. Simple meals provided in Presidencia. No bedding. Carriers secured from township President or Secretary.

Camp (26.5 km.) Shelter only.

Cuscusnong (30.4 km.). Provincial rest-house. Caretaker provides meals, bedding, and forage.

Butak (244 metres; 5 hrs. from Tagudin River; 30.5 km.). Fordable except during high water. Aerial ferry for passengers, carts, and animals. No charge for ferry.

Camp (38.5 km.). Shelter only.

Naiba (976 metres; 43.5 km.). Provincial rest-house. Caretaker provides meals, bedding, and forage.

Summit (1,434 metres; 51.5 km.).

Short-cut (56.2 km.). Very steep, about 1 km. in length, joins main trail at 62.1 km.

Short-cut (62.1 km.). See preceding note.

Short-cut (63.1 km.). About 2½ km. in length joining main trail at 67.4 km.

Short-cut (67.4 km.). See preceding note.

River (67.5 km.). Fordable except during high water. Aerial ferry for passengers. No charge for ferry service.

Cervantes (741 metres; 70 km.; 7 hrs. from Cuscusnong). See (A) 'Baguio to Cervantes.'

(D) From Cervantes to Bontoc. (Distance measured from Tagudin).

Cervantes. Cart road entire length 1½ to 3 metres wide. Leaves Cervantes at E. end from Calle Gonsales.

Abra River (70.9 km.). Fordable except during high water. Aerial ferry for passengers and horses; no charge for ferry service.

Aluling (74.9 km.). Igorot settlement E. of road.

Kalakaban (80 km.). Road Camp. Simple meals and shelter only. Branches off S. of trail, fairly steep; about ½ km. in length, joins main road at 82.9 km.

Short-cut (82.9 km.). See preceding note.

Tue (914 metres; 87.1 km.). Road Camp. Simple meals and shelter.

Bauko Diversion (90.5 km.). Travellers to Bontoc or Sagada should take trail branching off N. at this point.

Side trip to Sagada (7 hrs. from Cervantes). Sagada Trail branches N. from Bauko Diversion at sign-post about 5 km. Trail passes through the Igorot settlement of Bagnen.

Meals, bedding, forage, and carriers provided upon application to Presidencia. Telephone located in Presidencia. Sagada trail joins main Bontoc road at 121.95 km. Carrier hire between Cervantes and Sagada, ₱1.00; between Sagada and Bontoc, ₱0.40.

Bauko (1,250 metres; 24.6 km.; 4 hrs. from Cervantes). Follow Bauko Diversion leading N. from 90.5 km. at Sagada-Bauko Forks, take trail leading E.; Bauko located at 4 km. from main Bontoc road at 90.5 km. Meals, bedding, forage, and carriers supplied by township president or secretary. Telephone in Presidencia.

Bauko Diversion (104.9 km.). Distance from this point to Bauko 5 km. See preceding note after Bauko.

Sabangan River (109.1 km.). River crossed on bridge.

Sabangan (110.1 km.). Igorot settlement lying S. of road.

Gunogon (113 km.). Igorot settlements E. and W. of road.

Alab (119 km.). Igorot settlements E. and W. of road.

Forks (121.9 km.). Trail branching W. leads to Sagada. (See Sagada above.)

Bontoc (881 metres; 4 hrs. from

Bauko). Meals, bedding, and forage supplied by Mountain Restaurant on E. Bontoc Street, and by Mountain Club on E. Main Street.

Bontoc (Club Hotel; rooms 5; rate, ₱4.) is the seat of government of the Mountain Province. It is a good-sized town, located in a valley and separated from Samoque by a river. There is a large and typical native village. The American quarters contain the Lt.-Governor's Office, the Hospital, the Mountain Province Penitentiary, the Bontoc Club, etc. There are churches of the Roman Catholic and Episcopal missions, especialy the fine church of the latter, which are worth visiting.

Carriers supplied on application at Lt.-Governor's Office in Provincial Building. Post and Telegraph office in Provincial Building. Telephone in Provincial Building and in Mountain Club. For trip to Banaue and Kiangan, See (E).

BRIDGE ACROSS THE RIO CHICO.

(E) From Bontoc to Kiangan. (Distance measured from Provincial Building, Bontoc;* measured from Kiangan).

Bontoc:—see above (D). Trail 1 to 2 metres wide. Leaves Bontoc at E. end of Main Street. At 1 km. Rio Chico de Cagayan forded during dry weather. When high water, cross river in boats or ferry.

Talubin (1,000 metres; 10.5 km.) Igorot village E. of trail. Travellers desiring to visit same, follow trail leading E. from main trail at 9.3 km. From village old trails connect with main trails to Barlig and Dodo.

Dodo (Talubin; 12.3 km.). Shelter provided in Rest-house. No meals or bedding supplied. Carriers and forage supplied by president or other town official. Barlig, Lias, Kadaklan, Natonin, and Damag trail leads N.E. from Rest-house Square. Banaue trail leads E. from Square.

Creak (23. 4 km.). Excellent water.

Polis (Summit 1890 metres; 25.9 km.). Highest point on trail, crossing over Polis Range. Distance 59 km.

Camp (55.9 km.*). Shelter only.

Junction (36.4 km.*.) Trail to W. leads to Loó.

Banaue[1] (1,100 metres; 35.5 km.*). For meals, bedding, and carriers, apply to Constabulary Supply Officer. Forage supplied by Provincial Exchange located at N. end of Plaza. Telephone located in Constabulary Offices. Trail for Mayoyao, Damag, and Natonin, leaves Plaza at N. Exchange. Trail for Kiangan leaves Plaza at N.W.

Short-cut, (35.5 km.*). Short-cut to Kiangan via Bababuyan leaves Banaue Plaza at N.W. Good only in dry

season. (Rejoins main trail at 18.5 km.).

Short-cut (18.5 km.*). See preceding note.

Short-cut (17.5 km.*). Passes through Ifugao[2] villages. Good trail during dry weather, rejoining main trail at 10.1 km.

Short-cut (10.1 km.*). See preceding note.

Ibulao River (8.6 km.*). Aerial ferry for passengers. Horses ford river.

Kiangan (844 metres; 6 hrs. from Banaue). Capital of Ifugao sub-province. For meals, bedding, carriers, and forage, apply to office of Lt.-Governor in Provincial Building. Sidetr. il leading to Bugias, via Asin valley, finally joining the Agno River Route. Telephone in Provincial Building.

Junction (3.5 km.*). Road to S. leads to Palao.

Payawan (26.5 km.*). Shelter only. Carriers and forage supplied by Cabecilla of Payawan. Telephone locate in Rest-house.

Lamut River (31.7 km.*) Fordable at almost all seasons. (Boundary between Ifugao, Mountain Province, and Nueva Vizcaya Province).

Banaue[1] (see 'Bontoc to Kiangan') is in many respects the centre of Ifugao Sub-province. The place, however, shows scarcely anything that can be called a town, for the inhabitants live in small hamlets scattered about on the sides of the terraced rice-fields.

Ifugao[2] (see 'Bontoc to Kiangan') has no hotel whatever. Accommodation is, however, obtainable at the Constabulary offices of Kiangan, Banaue, and Mayoyao; Rates, ₱4–5 per day. The sub-province is inhabited by the Ifugaos (see P. 16), who, as compared with the Benguets, are apparently more primitive, for the men wear only a blue clout and the women a short skirt. But in physique, cleanliness, and industry they are considered to rank far higher. The lack of low plains, accompanied by a dense population (125,000 to an area of 800 sq. m.) has led them, thanks to their industry and intelligence, to resort to cultivating rice in beautiful terraces which are the wonder and admiration of all visitors. These terrace-fields are found all along the trail of some 130 km., entirely traversing the sub-province. The terraces, hundreds of them, each with an average height of 10 ft., rise tier above tier on the mountain sides, stretching at places like Banaue or Sapo up to the enormous height of 1,000 metres, or 'literally into the clouds.' Not only the neatness, but the durability, of the walls of these terraces, and the skill with which the stones are handled in building them, are said to be truly remarkable. Taking advantage of their already acquired habit of skilfully handling stones, the government is trying to instruct them in the modern art of stonemasonry.

From Kiangan to Nueva Vizcaya Province.

The route as far as Lamut River, which is the boundary between Ifugao, the Mountain Province, and Nueva Vizcaya Province, is shown on P. 71, 'Bontoc to Kiangan.'

Nueva Vizcaya Province, created in 1838, belonged originally to Ifugao, and is one of the so-called non-Christian provinces. The province occupies an extensive plain, which lies at an altitude of from 280 to 460 metres, and is surrounded on all sides by mountains of considerable height. It has an evenly distributed rainfall, is well watered by the river system of which the Magat, a tributary of the Cagayan, is the centre, and there are many square miles of fine grazing country. The inhabitants number 22,000, of whom 6,000 are pagans (Ilongots, who live for the most part in the mountains to the E.). The

majority of the inhabitants, comprising Gaddangs, Isinays, and Ilocanos, are civilized. Bayombang is the chief town of the province, and between it and Manila mails are conveyed twice a week. The chief occupation of the inhabitants is agriculture, staple products being rice, corn, and vegetables, besides coffee, cacao, and tobacco.

Bagabag (43 km. from Kiangan) is a good-sized Christian town. Crossing Mt. Santo Domingo and traversing the rice-producing region of the province, one comes to ***Bayombang*** (about 61 km. from Kiangan). The prospects of its increasing prosperity entirely depend on the completion of a road connecting this capital city of the province with Manila. There is a small colony of Americans, with one or other of whom travellers can generally secure accommodation. Between Bayombang and Bagabag, via Solano, is a carriage (*carromatas*) road. In these places there are a number of bicycles for hire, but no automobile. All conveyance of goods is done by pack-horses or carabao carts.

From Bayombang to Baguio there is a very imperfect trail, of which the distances, as measured by hours according to some pedestrian travellers, are as follows:

Bayombang to Bambang (3 hrs.); Bambang to Salinas (2½ hrs.), where there is a celebrated salt-spring; Salinas to Santa Cruz (4½ hrs.); Santa Cruz to Pangpang (5½ hrs.); Pangpang to Inchipchip (4½ hrs.); Inchipchip to Lusod (4 hrs.); Lusod to Pitican (3 hrs.); Pitican to Itogon (4 hrs.); Itogon (here the Agno must be crossed, often causing delays in the rainy season) to Baguio (3½ hrs.).

From the above statement, it will be seen that the trip can be made in three days, though it will be safer to allow four days. At all the places mentioned, except Inchipchip and Salinas, are found American officers, who will afford the traveller all the aid in their power.

From Bayombang to Tayug of Pangasinan Province (see P. 61) there is a route, the Padre Juan Villaverde Trail. This trail was originally surveyed by a Spanish missionary priest, after whom it has been named. The trail is in a good state of preservation and is a great convenience to travellers. Starting from Bayombang, the distances from Bayombang of the towns or villages on the way are as follows: Bambang (13 km.); Aritao (29 km.); Bone (36 km.), which is inhabited by Ilocanos; Santa Fe (52 km.), where is a good rest-house; Imugan (63 km.), a pretty village inhabited by Benguet Igorots; Nozu (86 km.; between Imugan and Nozu a mountain ridge of 4,600 ft. is crossed), where is a fair rest-house; San Nicolás of Pangasinan Province (103 km.); Tayug (108 km.)—from here there are two ways of reaching the Manila-North Railway, (1) by boat down the Agno to Rosales (present terminal of a branch railroad; see P. 61), (2) by automobile to Mangaldan (see P. 62) or Dagupan (see P. 62), on the main Manila-North Line. The automobile service between Tayug and Dagupan (about 50 km.) extends further to Lingayen (see P. 61).

Route V. Northern Luzon—Regions round about the Ilocos Range and Cordillera del Norte.

The two provinces of Ilocos Sur (together with the sub-province of Abra) and Ilocos Norte, constitute the N.W. part of Luzon. North and South Ilocos make a long strip of land extending for about 250 km. from N. to S., with a breadth ranging from 5 km. at the narrowest place to 30 km. at the widest. These provinces face the China Sea in the W. and are walled in by mountain ranges all along their E. frontiers. Abra attaches itself, so to speak, to the S. end of Ilocos Norte and the E. side of Ilocos Sur, while in area it is four or five times larger than the latter province. This sub-province lies between the two mountain ranges of Cordillera Central on the E and Ilocos Range on the W. and gives rise to the Abra River, which, after gathering in the waters of numerous affluents, runs through a narrow passage into the plains of Ilocos Sur. The river often overflows in the rainy season, causing great damage to the lands lying along its course. The N. and S. Ilocos, together with the province of La Union which lies to the S. of the former, are the headquarters of the Ilocanos, who make up a large part of the population of these provinces. The Tinguians or 'Itnegs', who closely resemble the Ilocanos, constitute the minority. The inhabitants show considerable skill in weaving cotton goods and textiles. Agriculture, however, is the prevailing industry, the staples being rice, corn, sugar-cane, pine-apples, etc. And since these provinces, as compared with the neighbouring ones, are densely populated, many of the inhabitants settle in other provinces in search of work or lands. The towns along the sea-coast of the two provinces -Candon, Vigan, Laoag—are connected by automobile service with Bauang, the N. terminal of the railway from Manila. They are also connected by a weekly steamer service with the latter city, the line extending further N. as far as Aparri (on the N. coast) of Cagayan Province.

Vigan (about 150 km. from the N. terminal of the railroad; 243 m. from Manila by water). *Hotels:* Vigan Hotel, rooms 4, rate ₱4 per day; Hotel Wing Hay Agio, rooms 4, rate ₱3 per day.

Vigan (Pop. 38,000), the capital of Ilocos Sur, was founded in 1572, being one of the oldest towns of the Archipelago. It is noted for its cotton factories. The town has direct commercial dealings with Manila, being the central market where all the products of the province find their way before they are exported. Pandan, about 3 km. from Vigan, is the port, though Salomague, 32 km. further N., is a much better harbour, hence availed of instead of Pandan during the typhoon season, for loading and unloading goods. The two other ports of Ilocos Sur, San Estéban (about 40 km. S. of Vigan), and Candon (about 55 km. S. of Vigan), are all called at regularly by steamers from Manila. All communication between Vigan and the interior of Abra takes place by means of the River Abra, which is navigable by means of bamboo rafts as far as Bangued in Abra. From Bangued there are fair roads to Tayum and other towns of Abra, such as Dolores and Bucay. Otherwise there are no roads in Abra, and the only means of conveyance are horses, or rafts on river courses.

Laoag (Pop. 43,000; about 230 km. from the N. terminal of the railroad; 284 m. from Manila by water), the capital of Ilocos Norte, was founded at the same time as Batac (where are now a school and an agricultural experimental station), Bacarra, and Paoay, between 1586 and 1593. The town is noted for coffee and horses. A pro-

BARUYAN RIVER, BANGUI, ILOCOS NORTE.

vincial highway extends from here to Bangui (620.9 km. from Manila by road) in the N., which is available for all kinds of vehicles. The town is also connected by a road with other towns of the provinces like Vintar, Piddig, Dingras, Solsona, and Bonna. There is an automobile service between Laoag and Vigan (about 80 km.).

Ilocos Sur is cut off by mountain ranges from the N.E. monsoons, which blow from October to April. During that season therefore there is very little rain, though during the rest of the year rain and typhoons are frequent. The province generally suffers from lack of rain, and the paddy-fields often get very dry, making the rice crop a failure. The comparative lack of arable lands has apparently led the people to engage in manufactures—salt-making all along the sea coast, and weaving of cloth, the latter being chiefly the work of women. The products of the loom comprise towels, Ilocos blankets, *Jusi*, silk goods, etc. Area 471 sq. m. Pop. 187,411 (1903).

Ilocos Norte is mountainous except for a strip of low land along the coast. Among the mountains are some high plateaux. Mt. Bumungan, Mt. Quebrada, Mt. Pascan, Mt. Taratara are from 4,000 to 7,000 ft. high. The more important rivers are the Laoag and the Canit. Danum a Dacquei, or Paoay Lake (5 km. by 3 km.), and Lake Nang-guyudan are two sheets of fresh water, located between Laoag and Paoay, abounding in delicious fish, while during certain seasons of the year flocks of ducks are to be met with. The minerals found in the province comprise asbestos, manganese, and clays of various kinds. Salt is made on the coasts of the province. Horses and cattle are raised in the regions of Bangui. Area (including dependent islands), 1,330 sq. m. Pop. 178,995 (1903).

Aparri (374 m. from Manila by water.). *Hotel:* Aparri Hotel, rooms 5; rate ₱3.50—₱4.00. Aparri, the chief port of Cagayan Province, is located on the N. coast of Luzon and at the mouth of the Rio Grande de Cagayan. The harbour lies within a sand-bar and is quite deep. There is a weekly steamer service (see P. 7) be-

tween here and Manila all the year round. The port is practically the only outlet for the products of Cagayan and of another province, Isabela, which are carried down the Rio Grande de Cagayan, the largest river in Luzon and the second largest in the Archipelago. The chief means of conveyance throughout the province are furnished by horses and boats. Of the latter, a kind called *barangayanes* is of a fair size and provided with sails, but where the water is shallow it is propelled by bamboo poles. Between Ilagan, the chief town of Isabela, on the upper course of the Rio Grande de Cagayan, and the port at the river-mouth, the Government runs a weekly steam-launch service, which carries mail matter and a few passengers, but is without any eating, sleeping, or toilet accommodation. In addition, the Tabacalera Co. maintains a weekly service, running larger boats with better accommodation, when the water permits. In going up the River Cagayan by boat, passengers should provide themselves with bedding and food (and simple cooking utensils). Starting from Aparri (or Lal-loc, the site of a military post established in 1581), it usually takes two days to reach Tuguegarao. It is advisable, where there are no sleeping arrangements, to stop over-night at Alcalá, which lies about midway between Tuguegarao and Aparri. Neither at Alcalá nor at Tuguegarao is there an hotel, so that those desirous of stopping over-night at those places will have to depend on the hospitality of a resident American. At Tuguegarao, however, are two public messes, where European food may be obtained. In these regions there are some large tobacco plantations and several manufactories.

Cagayan Province occupies the N.E. end of Luzon, being bounded by the Pacific Ocean on the N. and E., by Isabela on the S., and by Kalinga and Apayao on the W. The oldest inhabitants of the province are Negritos and Igorots, who occupied the province long before the Ilocanos came in. It is said that when the Spaniards came to this region (1572–1575), they found Ilocanos living in the coastal regions, who were emigrants from neighbouring regions. It was with the formation of the tobacco monopoly by the Spanish Government that these Ilocano emigrants flocked in, and to-day they constitute, together with the Ibanags, the larger part of the civilized population of the province. Chinese traders are also found almost everywhere in the province, and they, together with Spaniards and Germans, control the tobacco trade of Cagayan. Near the plantations may be seen large warehouses for tobacco leaves. Agriculture is the chief occupation of the inhabitants, the staples being tobacco, rice, and corn. Area, 5,052 sq. m. Pop. 156,239 (1903).

The Babuyan Islands, lying to the N. of Luzon, are a group of small islands, which are governed from Aparri as a sub-barrio. The land consists largely of bare rocks, unfit for tillage, and the inhabitants engage in stock-farming, raising pigs especially. Rice, corn, and sweet potatoes are also raised. Communication with Aparri is maintained by sailing boats, which often find the passage difficult on account of bad tides and changing winds.

The Batanes Islands, lying to the N. of Luzon and within 100 m. S. of Taiwan (Formosa), form a part of Cagayan Province. The islands are exceedingly hilly and very sparsely populated. The chief town, Santo Domingo de Basco, was so named from the subjugator of the islands. The inhabitants build houses of soft stones, go about among the islands in canoes, and cultivate sweet potatoes, corn, and rice. They raise pigs. The islands are usually reached by boats which are able to sail only in good weather.

Route VI. Manila to Cavite, Pagsanjan, Batangas, and Lucena.

(A) Manila to Cavite (Ry. extending to Naic).

(1) By rail over the Cavite line from Paco Sta., Manila, to San Roque (32 km. from Paco Sta. in 1 hr. 10 min.; 5 trains daily each way; *fare*, 1st class ₱1.28). San Roque is a suburb of Cavite, and a walk or drive of about a mile is necessary to reach Cavite proper.

(2) By steamer (T. R. Yangco's; see P. 8)—9 m. by water; service four times daily each way, taking one hour (*fare*, 1st class, ₱0.45).

(3) By road (good for the first 29 km. as far as Binacayan, but the remaining portion, 13 km., is incomplete).

Pasay (4 km. from Paco Sta.) produces good pottery, and in its neighbourhood is raised *zacate*, a good fodder-grass. A little beyond Pasay and along the road is the ground of the Manila Polo Club and buildings owned by it, and a water tower. From the neighbourhood of these, Fort Wm. McKinley Road branches off to the left.

Las Piñas (12 km. from Paco Sta.). Here is an old dilapidated church, containing a curious organ made of wood, with pipes of bamboo, similar to the one found in the Recoletos Church of Manila, both being attributed to Friar, Diego Cera, who flourished a century ago.

The Zapote Bridge (16 km. from Paco Sta.), over which the road passes, was the centre of sharp fighting during the recent insurrection.

Cavite Viejo, or Old Cavite (23 km. from Paco Sta.), is the home of General Emilio Aguinaldo.

Cavite derives its name, meaning 'a fish hook' (cavit), from the shape of a small peninsula at the end of which the town lies. During the Spanish régime Cavite was a naval station and contained an arsenal. Here were fitted out the annual galleons for Acapulco, Mexico. There is the site of an old fortification, which, together with some other buildings, now belongs to the United States Government. Here in 1898 the Spanish fleet was destroyed by Admiral Dewey. There are also several old churches, and a monument to the 'Thirteen Martyrs,' who were put to death on suspicion of their having taken part in the insurrection of 1896. The place contains an American naval hospital. Sangley Point, a sand spit, which bounds the further side of the bay, was the trading place for Chinese junks which used to pay periodical visits to Luzon, long before the coming of the Spaniards.

Cavite Province is bounded on the N. by the bay and the city of Manila; to the E. by La Laguna Province; on the S. and S.E. by Batangas Province. The province is mountainous in its S. half, while its N. part, which consists of level plains, is watered by numerous rivers and is exceedingly fertile. A large portion of it (i.e. nearly one-half) had been appropriated by various ecclesiastical bodies, such as Dominicans, Franciscans, and Recoletos, whose, in many cases very oppressive, rule was one of the causes which drove the Filipinos to insurrections. Tagalogs constitute the larger part of the inhabitants. Ternate, a small place on the outskirts of Naic (45 km. from Paco Sta.),

to which the railway extends, is inhabited by the descendants of those Christian natives of Ternate Is., in the Moluccas, who early in the 17th century fled with the Spanish missionaries from the Protestant Dutch who had seized Ternate Is., and, coming over to Luzon, founded a new home there. The inhabitants speak a language known as the Ternate dialect, which is said to contain a large admixture of Spanish. Most of the towns of the level plains are connected with each other either by railway or first-class roads, the latter being available for carriages (*carromata*). Those going to Imus or Silang should leave the railway at Binacayan, to San Francisco de Malabon, at Noveleta, and to Indang and Maragondon, at Naic. Between Silang and Indang a first-class road is now in the course of construction. The chief products of the province are rice, abacá, and sugar. Area, 619 sq. m. Pop. 134,779 (1903).

(B) Manila to Pagsanjan.—Visit to Lake Bay (Laguna de Bay). There are, besides the railway, two routes which are within the choice of travellers:—

ANIMALS IN THE STREET, SANTA ANA.

(1) By small steamer operated by T. R. Yangco (see P. 8): Leaving Manila in the morning, the boat courses up the Pasig, and entering the lake reaches the destination off Pagsanjan, in 14 hours altogether,—stopping at several towns (see P. 8) on the way. Fare, 1st class,—Manila to Los Baños or Santa Cruz ₱1.00; Los Baños to Santa Cruz, ₱0.50; Pasig to Los Baños or Santa Cruz, ₱0.80. When there is sufficient water, the boats go beyond Santa Cruz to Pagsanjan, the additional fare being ₱0.20—0.40. Except during the rainy season, when the lake is full, passengers are obliged to hire a small boat (bancas) to get transferred from the steamer to land or vice versa. The return trip down the lake and the Pasig to Manila can be accomplished in about half the time required for going up. A combined launch trip can be arranged, when a party

can be got up, for an excursion to Pagsanjan. Such a party leaving Manila at 8 a.m. would reach Los Baños about 2 p.m., and, leaving the latter place at 6 p.m., reach Pagsanjan at 10 p.m. of the same day. The party would stop over-night in the ship and, making use of native bancas, see the Pagsanjan Gorge and rapids next day in the forenoon. The launch would then return, leaving Pagsanjan about 1 p.m. and arriving at Manila at 8 p.m. For expenses, etc., of a combined launch trip, inquire at Cook's Office, Manila.

(2) By automobile: good road as far as Los Baños (65 km.) or Bay (72 km.) and thence either by steamer or train to Pagsanjan. The automobile part of the way leads in succession by the new residential quarters of Manila, the Manila Polo Club's ground, the fish ponds, Parañaque, and the salt beds of Las Piñas. At the last mentioned place, turning to the left through a magnificent bamboo avenue, Alabang would be reached after about 10 km.'s drive. Soon after leaving Alabang, the placid waters of Laguna de Bay would come in sight, and to the left would be seen the town of Muntinlupa. From here to Calamba the road runs through 'friar land', and after a drive of 10 km. Los Baños is finally reached. Automobile tariff, including guide: (round trip, taking 4 hrs.)—auto. with 3 seats, ₱26, with 4 seats, ₱34, with 5 seats, ₱42.

By Railway: At Paco Sta., Manila, board the train for Pagsanjan; time from Manila to Los Baños, 2¼ hrs., to Pagsanjan, 3½ hrs. (93 km.; *fare*, 1st cl., ₱3.72); 3 trains daily each way. Trains starting from Paco pass through Culi-culi, Balacbag, Sucat, and Alabang (20 km. from Paco Sta.; *fare*, 1st cl., ₱0.80). For the first part of the route the scenery is commonplace, but note in the latter section the 'friar lands' consisting of fertile rice fields and sugar-cane plantations,—these lands are now for the most part passing into the hands of tenants on the sale on instalments plan. At Alabang are the Government agricultural experiment station and stock farm, where specialists are engaged in studying the rinderpest. At Muntinlupa (3 km. from Alabang) is a sugar-refinery plant of the newest type.

Calamba (junction for Pagsanjan; 47 m. from Paco Sta.; *fare*, 1st cl., ₱1.88) is famous as the birth-place of a highly gifted Filipino patriot, Dr. José Rizal,—the site of his old home, right opposite the market-place, being still pointed out to visitors. Here change trains for Pagsanjan. Passing through the two stations of Bucal and Pansol, we come to

Los Baños or 'the Bath' (56 km. from Paco Sta. in 2¼ hrs.; *fare*, 1st. cl., ₱2.24): *Hotels:* Universal Hotel, rooms 8, rate ₱4; Los Baños Sanitarium, rooms 15, rate ₱6.

Los Baños is a small town, but one of the most popular resorts in the Philippines. Its chief attraction consists of hot mineral springs, which are said to be efficacious for skin diseases and for rheumatism. The springs were monopolized at first by Franciscan friars, who opened a hospital in 1671. Since the American occupation, a military hospital has been established, which owns one of the

springs. On the hill behind the town is Camp Eldridge. About an hour's drive from the town is Mt. Maquiling, at the foot of which is a beautiful waterfall much visited by tourists. In the opposite direction from the waterfall, at a distance of 2 m., is situated the College of Agriculture of the University of the Philippines.

Botocan Falls.

Santa Cruz (88 km. from Paco Sta.; *fare*, 1st cl., ₱3.52), the capital (Pop. 13,000) of La Laguna Province, is located in the centre of a flourishing coconut plantation region. The city contains a large rope factory. Santa Cruz is connected by a first-class road with Pagsanjan, Lumban, Magdalena, and Majayjay; from Lumban there runs a second-class road along the E. shore of the lake to Mabitac.

Pagsanjan (93 km. from Paco Sta. in 3½ hrs.; *fare*, 1st. cl., ₱3.72). At the entrance to the town is a three-arched gateway, which is crowned by two griffins, resembling the Cheshire cat. The town is picturesquely situated and has two small hotels, chiefly for the accommodation of visitors to the celebrated Pagsanjan River Gorge. Those intending to make the excursion should hire native dug-out canoes (bancas, charge ₱3 for the trip), each holding one or two passengers, and ascend the Pagsanjan River (which is also known as the Bumbungan River). The Gorge, which is 6 m. long, is reached soon after leaving the town. The visit takes about two hours each way. There are many rapids to be passed over and one should take good precautions against becoming thoroughly wet by the spray. The narrow Gorge (30 metres) is shut in on both sides by perpendicular walls (100 to 120 metres high), which, covered with luxuriant vegetation, largely shut out the sunshine, and the changing scenes and new vistas revealed at every turn in the river add to the charm and romance of the scenery. At the

upper end of the Gorge are two waterfalls, the Upper Cascade and the Lower Falls; the latter, though smaller in volume of water, exceeds the former in height, falling no less than 100 ft. The Upper Cascade is 60 ft. high.

There is another and well-known waterfall, the largest in the Archipelago, called the Botocan Falls, near the town of Majayjay, which may be visited by taking a very good road either from Santa Cruz or Magdalena; distance, 20 km. from the former and 9 km. from the latter place.

La Laguna Province encircles the S. half of Laguna de Bay, being bounded on the N. by that lake and Rizal Province, on the E. by Tayabas, on the S. by Tayabas and Batangas, and on the W. by Batangas and Cavite. The highest mountains of the province are in the S.E.—Banajao (2,251 metres) and San Cristóbal (1,612 metres), both extinct volcanoes—and in the S., Maquiling (1,100 metres). According to tradition, there were in times previous to the coming of the Spaniards two lakes instead of one as at present, and these lakes were connected by a river, on which was situated the original town of Bay; but the land which separated the lakes was later submerged, together with the original town of Bay. When the water is low, the stone pavement of a road which connected Bay with another town, Pila, may still be seen under water. It is said that the S. shore of the lake is constantly and slowly subsiding. The temperature of the province is several degrees lower than that of Manila. There are numerous rivers and the soil is very productive, more than one-half being adapted to agriculture; the staples are sugar-cane, abacá, rice, copra, betel-nuts, and coffee. The inhabitants are mostly Tagalogs, though one frequently meets with people of mixed descent (Mestizos), tracing their ancestry to Chinese, Spanish, and Japanese settlers. Before 1894 these people lived under distinct municipalities, being separated from the pure Tagalogs. Area, 629 sq. m. Pop. 148,606 (1903).

(C) Manila to Batangas (Ry. further extending to Bauan). Between Manila and Calamba (junction) the route has already been described. From Calamba on, the line runs almost due S. as far as Lipa, where it take a S.W. direction to Batangas (104 km. from Paco Sta.); here the line makes a sharp turn towards Bauan (6 km. N.W. of Batangas), which is the present terminus.

Tanauan (63 km. from Paco Sta. in 2½ hrs.; *fare*, ₱2.52). Here visitors to the Taal Volcano usually alight from the train. Between Manila and Tanauan, four trains are run daily from each end.

Note: For the ascent of the volcano, one proceeds on horseback or by native carriage from Tanauan to Bañadero on the shore of Lake Taal, a distance of 7 m., taking from 1½ to 3 hrs.; thence by canoe to the island (8 m. in 1 to 3 hrs.). Those desirous of reaching the crater at daybreak, so as to see the sunrise, generally spend a night on the lake shore (tent, drinking water, food, cooking utensils, etc., should be brought over). Saddle-horses may be hired at Tanauan to go to the lake one day and return the next, charge, ₱5.00 each; and a boat may be had at the lake shore for about ₱8 there and back.

Taal Volcano (or the 'Cloud-maker', as the natives of Batangas call it), an object of worship with the natives, is a volcanic island (about 1,050 ft. or 320 metres above the lake level), rising from nearly the centre of Lake Bombon or Lake Taal (17½ m. long and 12 m. wide). It consists of a huge crater, nearly circular, near the centre of the island, and now filled with hot water. The crater is only intermittently active. We have a record of its eruption in

1749, when the town of Sala was destroyed by mud and ashes thrown out of the volcano. The next case of great activity occurred in 1754. The indications were noticed in June and actual eruptions began in July, continuing till the following December, when the regions along the lake shore were covered with lava to a depth of 2 or 3 ft., and towns like Tanauan, Lipa, Bauan, and Taal were destroyed and the inhabitants fled for their lives. On the same occasion the stone church of Taal was destroyed. The latest case of a violent outburst occurred in 1911, when hot water, mud, and ashes were thrown out and wrought havoc within the surrounding region over an area of 90 sq. m., killing 1,800 people, while light ashes were blown over an expanse of 800 sq. miles. After this last eruption the bed of the crater, which had been 5 ft. above the lake level, became 250 ft. below the same, so that water from the lake seeped in till it filled the crater almost to the same level as the lake. The ascent from the shore to the rim of the crater takes about ½ hour and another half hour is required to make a descent into the crater.

Batangas (104 km. from Paco Sta.; *Hotel:* Russel Hotel, rooms 7; tariff, ₱4 per day, ₱21 per week, and ₱75 per month.

Batangas (Pop. 35,000) is the capital of Batangas Province. There is an automobile service between here and the two towns of Taal and Lemery in the N. Hot mineral springs in the town are said to have high medicinal properties.

Batangas Province, the most southerly of the W. provinces of Luzon, is bounded on the N. by Cavite and La Laguna, on the E. by La Laguna, Tayabas, and Tayabas Bay, and on the S. by the Mindoro Sea and Mindoro Island. The inhabitants are mostly Tagalogs, with a trace of Negrito blood in the case of many of them, as may be seen in their black skin and curly hair. There are also some who are regarded as having a mixture of Malay and Negrito blood. Formerly the province had large intercourse with Japan and China, the ships from those lands entering Lake Bombon by the River Pansit. In Spanish times the towns of Batangas, Taal, Bauan, and Lemery were surrounded with walls, mounted with guns, as a protection against the frequent attacks of Moro pirates. The uncertainty of the sea voyage owing to the same cause, however, led to the opening up of land routes to Manila and other towns. The mountains are well-wooded and the valleys fertile; the staple agricultural products being sugar-cane, rice, corn, oranges, abacá, etc. The province is rich in mineral springs, which are said to be efficacious for skin diseases and rheumatism. Area, 1,201 sq. m. Pop. 257,715 (1903).

(D) **Manila to Lucena and Hondagua** (distances measured from Paco Sta., Manila). Besides the railway which now extends to Hondagua (about 220 km.) via Lucena (130 km.), there is a good road available for automobiles, not only to Lucena but further on to Atimonan, on the Pacific coast of the island, for a distance of 179 km. or about 110 miles.

A day would suffice for a hurried drive to Atimonan and back again to Manila. A somewhat leisurely trip can be made in two days, when Los Baños (see P. 79) is a good place to stop overnight. The road to the S. of Los Baños first runs round the foot of Mt. Maquiling and then through the coconut plantation region of Bay, Calauan, and San Pablo, etc., till Lucena, capital of Tayaba Province, is reached; from here to Atimonan, the road winds and twists over the mountain range lying between the China Sea and the Pacific Ocean, forming undoubtedly the most interesting portion of the entire S. road.

In this last section the grade at certain places is 18%, and there are two switchbacks. At the summit of the range is a holy spring, to which natives resort every Friday to bathe. Perhaps the most interesting part of this road is reached when the auto. runs down the Pacific side of the mountain range into broad, fertile country (in which lies Atimonan) bordering on the beautiful Lamon Bay and within sight of the Pacific. This trip on the S. road will afford, moreover, a good chance of studying tropical vegetation both in its wild and cultivated condition.

The railway leading to Lucena separates from the line leading to Batangas, already described, at Luta, the station next S. to Tanauan (P. 81).

San Pablo (86 km. in 4 hrs.; *San Pablo Hotel*, rooms 6; rate P4). Near the town are nine beautiful lakes, which trace their origin to extinct craters.

Lucena (130 km. in 5½ hrs.; *fare*, 1st cl., P5.05; McStay's *Hotel*, rooms 8; rate P4). This is the capital of Tayabas Province and a centre of coconut plantations. The town, which has a population of about 10,000, contains two ice-plants, an electric light plant, two coconut distilleries, and an industrial school; the latter in common with the similar institutions in Atimonan, Santa Cruz, and Tabayas, produces various articles made of native wood. Between Lucena and Atimonan (*Hotel*, rooms 4; rate P4) there is a good automobile road, as also between Lucena and Tayabas.

Tayabas Province embraces a large portion of the E. coast of Luzon and many islands, E. and S., including Polillo (producing good coal), Albat, and Marinduque (producing lead), these being the largest. It is bounded by Isabela and the Pacific Ocean on the N. and E., by Ambos Camarines on the S.E., by the Visayan Sea and Batangas on the S.W., and by La Laguna, Rizal, Bulacan, and Nueva Ecija on the W. Capital, Lucena (Pop. about 10,000). Originally the seat of the provincial government was at Kalilaya (now known as Unisan), but in view of the frequent inroads of Moros it was removed in the middle of the 18th century to Tayabas, where it remained till in 1901 the present place was chosen. The province has made, as compared with some provinces in the W., but slow progress owing to the frequent incursions of the Dutch and of Moro pirates. Sierra Madre Range runs from S. to N., very close to the Pacific coast of the province, and between it and the sea there lies a long strip of very fertile lands. In the central part of the province are many extinct volcanoes, of which Mt. Banajao (2,251 metres) is the highest. Of several bays, Kasiguran in the extreme N. is a fine natural harbour. In Hondagua Bay, near Apat, in the S. of the province, harbour works are under construction by the Manila Railroad Company. These are both on the Pacific coast, while Laguimanoc and Pagbilao are comparatively good harbours on the W. coast of the province. Coconut plantations are a rich source of revenue; from the 5,000,000 coconut palms of the province, copra amounting to 35,000,000 kg. being obtained and exported annually. Hat-making and coconut distilling are important industries, the former valued at ₱1,000,000 annually. Pearl-fishing, near Atimonan, is coming to be quite a flourishing industry. The inhabitants are chiefly Tagalogs and Bicols, with a few Negritos and Ilongots in the mountains towards the N.E. Area 6,354 sq. m. Pop. 204,739 (1903).

Laguimanoc (163 km.), situated on the E. coast of Tayabas Bay and in the midst of beautiful scenery comprising a slanting white sand beach and a tropical sea studded with emerald islands. It is a good place for sea-bathing and fishing.

From here the train runs eastwards, traversing a narrow neck of land that connects the main part of Luzon with its 'tail' of S. extension. The route in this part makes many meanderings, with interesting views of blue mountains, streams foaming and roaring

in deep canyons, and coconut palm plantations. Here is also the largest railway bridge on the island. At Siain (208 km. from Paco Sta.) the majestic Pacific Ocean comes in full view, and thenceforward the line runs along the coast in full view of the sea, and, passing by Gumaca, an old port in Spanish times, Hondagua (8 km. from Siain) is finally reached. At Hondagua is a large pier, which forms the terminal of the line.

Hondagua (about 220 km.), as its name (meaning 'deep water') signifies is not only a deep port, but a capacious and well-protected one, owing to the presence of Alabat Island in the N.E. The port is also conveniently situated, facing towards the American continent and surrounded by the fertile districts of Luzon, particularly noted for the production of copra and hemp. The railway connection between Manila and Hondagua and the reawakening of the latter port have raised fresh hopes for the development of Tayabas Province to the N. and of provinces to the south. There are steamer connections with ports in these provinces.

Marinduque Is. (sub-province of), lying to the S. of Luzon, is mountainous, with very fertile valleys near the coast. The mountains are rich in timber. This was one of the places (others being Gapan, in Nueva Ecija, and Cagayan) where in the 18th century the Spanish Government, which adopted the tobacco monopoly system, permitted the cultivation of tobacco plants. Here also was established a dockyard, when Spanish ships on the high seas were menaced by the Dutch fleet Originally the inhabitants were mostly Pintados (Visayans), but these have been since replaced in influence by Tagalogs. The chief towns are Santa Cruz, Boac, Mogpog, Torrijos, and Gasan, of which the first-named is the capital. Boac (Pop. 15,000) is a growing place. A first-class road running close to the W. coast connects Mogpog on the N.W. coast with Buenavista on the S.W. coast. Nippa and mangroves are produced in abundance, also excellent abacá, besides vegetables, fuel wood, rattan, etc. Area, 361 sq. m. Pop. 51,674 (1903).

Mayon Volcano.

Route VII. Southern Luzon and Mindoro Island.

No tour of the Philippine Islands is complete without a visit to Legaspi and the giant volcano of Mt. Mayon.

The Bicol Peninsula, or Southern Luzon, sometimes described as the 'tail' of the island, is divided into the three provinces of Ambos Camarines, Albay, and Sorsogon. Of several towns of importance, Albay, together with its port of Legaspi, is the most important; and it is said that the Manila Railroad Co. intends to make this the S. terminal of its line, which has already reached Hondagua (see P. 84) from Manila, near the boundary line between Tayabas and Ambos Camarines. In the meantime, Albay may be reached either by taking steamer from Lucena to Pasacao, a port on the W. coast of Ambos Camarines, whence by automobile overland to Albay or Legaspi, or by one of the steamers, contract or non contract, from Manila to Legaspi (distance 355 m. by water; time required for the trip, over two days; *fare*, ₱28.40).

Albay (Pop. 40,000), the capital of Albay Province, is but 2 km. from Legaspi, a fine harbour on the E. coast. Several steamship companies maintain services (see P. 7) between Manila and Legaspi. The port has several large docks and is the commercial quarter for Albay, many American, European, and Chinese firms being established there. There is a commercial club which includes in its membership leading business-men of all nationalities. Visitors are accommodated at the club above mentioned, a prosperous institution with good quarters, there being as yet no hotel at Legaspi.

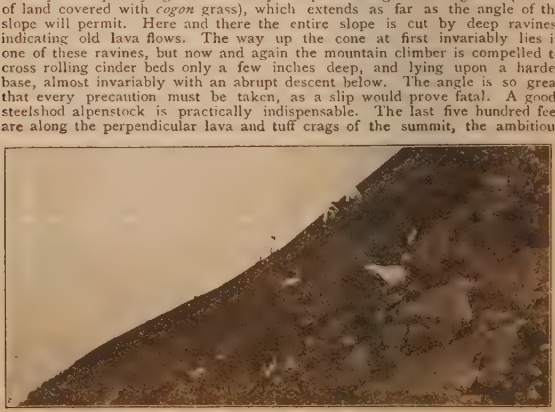
Albay proper is the Government quarter. Its beautiful plaza is surrounded by public buildings, such as the new Provincial Building, the Presidencia, the High and Industrial Schools, the Constabulary Barracks, and the Church. Daraga, 2 km. to the N.W., the residential quarter in Spanish times, was largely destroyed during recent revolutionary uprisings, but is being slowly restored. Here are made the cloth called *pinolpog*, out of beaten *abacá*, resembling Canton linen, and all sorts of household utensils of bamboo. Between Albay and Daraga is an army post known as Regan Barracks.

With Albay and Legaspi as the centre, good highways run through the province in all directions: (1) the highway leading N.W. into Ambos Camarines, via Ligao, etc.; (2) one leading to Tiwi, in the N.E., running along the coast, via Tabaco; (3) one between Ligao and Tabaco, thus connecting highway (1) and (2). These three roads completely surround Mt. Mayon. Automobiles are available on all these roads. Towns and villages at the foot of Mt. Mayon may be visited by automobile, the round covering some 90 km. At Naga, a village near Tiwi, are hot springs, said to be efficacious for rheumatism and all kinds of skin diseases. At Tiwi is produced fine pottery. The Manila Railroad Company intends to connect Tabaco by rail with Legaspi. *Telephone* connects Legaspi with Manila, as well as with all the chief towns of the province.

Albay Province is bounded by Ambos Camarines on the N., the Pacific Ocean on the E., Sorsogon on the S., and the Visayan Sea on the W. Capital, Albay. The province includes several islands, among which Catanduanes is the largest, (Virac on the S.W coast being its chief town). The province has an evenly distributed rainfall throughout the year, and this makes it the largest *abacá*-producing region in the Archipelago. Mountains extend from N. to S. ending in Mayon Volcano. There are three other volcanoes, viz. Masaraga (1,600 metres), Malinao (934 metres), and Pocdol. The inhabitants are Bicols. Area, 1,785 sq. m. Pop. 240,326 (1903),

Mayon Volcano (2,413 metres), to the N. of Albay and Legaspi, is a cone-shaped, active volcano, the last eruption taking place in 1900. Other outbursts occurred in 1897 and 1814. To climb the mountain, two days are required: starting from Albay on horseback about noon, one-third of the distance to the summit may be accomplished by the evening of the same day. Next day on foot to the summit and back to where the night was spent, and thence on horseback to Albay (tents and other equipments should be taken along). For a description of the trip to Mayon, perhaps we can do no better than quote the account of a visit by Dr. Paul C. Freer, formerly the Director of the Bureau of Science in the Government of the Philippines:—

"This great volcano rises from the sea-coast, between Legaspi and Tabaco, in the form of an almost perfect cone—the white houses and church towers of the surrounding settlements and the deeper-colored verdure of the trees at its base, higher up the brilliant green of the bare grass streaked here and there by old lava flows, and still higher a grayish-black cinder and ash cone tapering to the peak, with a small plume of steam escaping apparently from the extreme summit. The ascent is interesting, but may, if proper precautions are not taken, be dangerous. The rise of the land in the first part is scarcely perceptible, the road winding through forests interspersed with great plantations of Manila hemp; above, as it becomes steeper, the latter give way almost entirely to tropical jungle; and finally the path emerges into *Cogonal* (a tract of land covered with *cogon* grass), which extends as far as the angle of the slope will permit. Here and there the entire slope is cut by deep ravines, indicating old lava flows. The way up the cone at first invariably lies in one of these ravines, but now and again the mountain climber is compelled to cross rolling cinder beds only a few inches deep, and lying upon a harder base, almost invariably with an abrupt descent below. The angle is so great that every precaution must be taken, as a slip would prove fatal. A good, steelshod alpenstock is practically indispensable. The last five hundred feet are along the perpendicular lava and tuff crags of the summit, the ambitious



A Steep Slope of Mayon Volcano.

climber clinging to the latter with hands and toes, wherever support is possible, and slowly working his way to the edge of the crater. Finally standing upon the rotten foothold afforded by the latter, he looks down into what appears to be a deep, dark well, from which small quantities of sulphur-laden gas escape. Around him on the margin jets of steam arise: the ground on which he stands is hot, the boys carrying the canteens are far below, the dry breeze helps the evaporation, and he realizes that he is very, very thirsty. However, the views from the top repay all efforts. The entire southern portion of Luzon is visible, stretching away in succession of fields, forests, and diminutive villages to the Straits of San Bernardino, across which Samar may be seen, and even Leyte on a clear day. The lake of Bato, the interisland waters, and finally Burias are seen to the west; to the north there appears an apparently unbroken stretch of land with here and there a glimpse of the sea: and the Gulf of Albay with the towns of Legaspi, Albay, Tabaco, and Daraga, as well as the smaller islands to the east, seem to be almost within a stone's throw. I have been high up on the slopes of Etna, at the entrance to the Val del Bove, from which many travellers maintain the finest view in the world is to be obtained, but I certainly think that from the summit of Mayon the vista surpasses the one from its sister volcano in Sicily.....Mayon Volcano is decidedly one of the show places of the Philippines, and the wonder is that many of our visitors do not take the opportunity to make the ascent."

Naga (or **Nueva Cáceres**), capital of Ambos Camarines, the adjoining province on the N., may be reached from the town of Albay—a distance of 100 km. or about 62 m. by automobile, for there is a good interprovincial road all the way through. The road also leads further to Calabanga on St. Miguel Bay. This trip is interesting, as it gives an opportunity of seeing a large, prosperous hemp-producing region and some fine scenery.

Naga lies on the Bicol River, 25 m. from its mouth. It contains a vegetable market, the best in the province. One of the older towns in the Islands, it has been an episcopal see from very early times. Pop. 40,000.

On the N.E. coast of the province are several towns worthy of notice (for S.S. connection, see P. 7). The first to be mentioned is Daet, with its fine port of Mercedes, and its barrio of Lanot, famous on account of a mineral spring containing carbonic acid gas, which attracts a large number of bathers. In fact, Lanot is fast growing as a health resort. Indan in the N.W. is connected with Daet by a first-class road, while a trail extends yet further N.W. on the same coast to Paracale (*Hotel*, rooms 6, rate ₱4).

The train of the Manila Railroad Co., leaving Manila every Monday and arriving at Hondagua Wharf (see P. 84) on the same day, connects with the Company's steamer for Mambulao, Paracale, and Daet. The steamer comes back to the wharf on Thursday, after calling at Paracale and Mambulao.

Ambos Camarines (Province of) is bounded by the Pacific Ocean on the N.E., by Albay on the S.E., by Tayabas on the N.W., and on the W. by Ragay Gulf. It is said that the name originated with the barracks and the ecclesiastical houses of the Spaniards, which were called 'Camarines.' San Miguel Bay on the E. coast gives protection to ships in all weathers. Mountains: South-eastern Cordillera runs along the E. coast; Ragay Coast Hills, a low range of mountains, run from Mt. Labo along the W. coast; in southern Camarines, several volcanoes such as Isarog (2,022 metres, seen towards E. of Naga), Iriga (1,248 metres)—(Lake Buhi to the S. of Iriga). More than one-half the area of the province is covered by forests. The largest river of the province, the Bicol, flows out of Lake Bato on the S. boundary and flows through the valley lying between the South-eastern Cordillera and Ragay Coast Hills, and when full it is navigable by small steamers as far as Naga. An important tributary is the Libmanan, which, flowing from the mountains in the

N., joins the Bicol several miles above its mouth. This river valley and the coastal plains stretching to the N.E. are very fertile and thickly populated. The E. coastal regions, exposed to the N.E. monsoons, have in places a heavy rainfall between November and February. Between March and May frequent showers are experienced. Between June and October the S.W. monsoons bring heavy rains. Thus the central and E. parts of the province, on account of their humidity, make an excellent *abacá*-producing region. The inhabitants are chiefly Bicols, with a small number of Tagalogs, and about 6,000 Negritos in the mountainous regions. The prevailing language is Bicol, but the dialect of the capital, which is pure, is scarcely understood at Buhi and other parts of the province. Area, 3,279 sq. m. Pop. 239,405 (1903).

Sorsogon (*Hotel:* rooms 6, rate P3.00), the capital of Sorsogon Province, is on the N.E. shore of Sorsogon Bay. Pop. 13,500. There are several good roads, one leading E. to Bacon (distance, 10 km.), another N.W. to Guinlahon (distance, 5 km.), the latter being intended to be further extended as far as Albay (45 km.), and yet another S.E. to Gubat (distance 19 km.), whence a branch road leading W. is intended to be further extended to Casiguran, on the S. coast of Sorsogon Bay, the oldest town in the province.

Sorsogon Province, situated in the S.E. extremity of Luzon, includes several adjacent islands. It is bounded by Albay on the N., the Pacific Ocean on the E., the Strait of San Bernardino on the S.E., and the Visayan Sea on the S. and W. Sorsogon Bay on the W. coast is deep, capacious, and safe for large vessels in all weathers. The province is in an active seismatic centre and there are frequent earthquakes. Around the volcano, Bulusan (1,237 metres), are mineral hot springs. Between the years 1600 and 1753, this whole region was placed under the control of the Franciscans, and Father Espellargas, a member of that order, invented an apparatus for stripping the fibres of *abacá*, which is in use among the inhabitants to this day. The province is mountainous, one-third of its area being taken up with forests. Agricultural products: hemp, sweet potatoes, and sugar-cane. The inhabitants are Bicols. Area, 755 sq. m. Pop. 120,495 (1903).

Masbate Is., which, together with Ticao, Burias, and other smaller islands (altogether 66 in number), forms a sub-province of Masbate, is the 11th in point of size (area, 1,236 sq. m.) of the islands of the Archipelago, while Burias is the 22nd (228 sq. m.) and Ticao the 30th (121 sq. m.). These islands appear to have been at one time the headquarters of the Moro pirates. Near Batungan on the W. coast of Masbate are several caves, apparently the dwelling places of the original inhabitants. The island has a gold-mine, Colorado mine, which produces monthly P60,000 worth of the precious metal. The inhabitants are composed of Bicols, Visayans, and a few Tagalogs, who engage in agriculture and stockfarming (horses, pigs, etc.).

Mindoro Island (literally the 'Mine of Gold,' though there is no gold-mine in the island), is a large island, lying to the S.W. of Luzon and standing in point of size (area, 3,851 sq. m.) the sixth among the islands of the Archipelago. A large mountain range runs through it from S.E. to N.W., leaving large, low plains bordering on the coasts, on both sides of it. The highest mountain is Mt. Halcón (2,683 metres) in the N. part of the island. The coast line is much indented, Puerto Galera being a very fine harbour on the N. coast and Mangarine on the S.W. coast. Calapan is the capital of the province of Mindoro and is connected by a trail with Puerto Galera. The island contains the most extensive forest of any in the Archipelago. At San José on the S.W. coast is the well-known American Sugar Plantation. The Christian population of the island live mostly near the coasts, Visayans in the S. and Tagalogs in the N. A small number of uncivilized Mangayans live in mountain districts. Puerto Galera is not connected with Manila by a stated service of steamers and can only be reached by cutters in two days' time. Near Puerto Galera, where Mt Halcón rises from near the seashore, is a good sea-bathing place. By hiring a glass-bottomed boat, one may enjoy a view of the under-water vegetation and other curiosities of the sea bottom. Area of the island, 4,024 sq. m. Pop. 39,582 (1903).

Route VIII. The Visayas and Palawan.

The Visayas are a group of islands lying S. of Luzon and N. of Mindanao and comprise Samar, Leyte, Bohol, Cebu, Negros, Panay, and innumerable smaller islands besides. Palawan is a long, narrow island, stretching from N.E. to S.W., and is the westernmost of the Philippines. The Visayas group obtained its name, owing to its component islands being inhabited by a large civilized stock, the Visayans. The islands of this latter group constitute the most productive portion of the Philippines, containing the best sugar and hemp lands. They are also the most picturesque portion, the numerous, well-wooded islands, studding the seas in all directions, being considered, in their variety of colour and outline, fairly to rival the famous 'Inland Sea' of Japan.

Samar is the most easterly of the group, lying exposed to the Pacific Ocean. A small island S. of it, called Homonhon, was the first place touched at by Magellan in 1521 and, together with Samar, bears the honour of being the first of the Philippines discovered by the Spaniards. Samar is the name given by the Spaniards, being a corruption of Zamal, the name of the people inhabiting that island. The island has long suffered from frequent raids of Moro pirates, which explains its present backward state of development, as compared with some other islands. Catbalogan, the capital of Samar Province, is situated midway along the W. coast of the island. The town is in steamer communication with the chief ports of the Philippines (see P. 7), being 342 m. from Manila, 373 m. from Zamboanga, 153 m. from Iloilo, and 125 m. from Cebu. Maqueda Bay, facing the town, is known on account of its rich fishing output.

Samar Province comprises the island of Samar and other adjacent islands. Samar Is. is taken up largely by mountains, some of them being covered with virgin forests. It is exposed to S.W. monsoons during August and September and to N.E. monsoons during December and January. The rainfall is heavy throughout the year, the heaviest being between October and January. The coolest portion of the year is between November and February. There are no good roads. The island is rich in hot mineral springs, those near Oquendo, in the N.W. portion of the island, being well known on account of their medicinal properties. Chief productions: Acabá, coconuts, rice. The inhabitants are mainly Visayans, with some Bicols and Tagalogs on the N. coast. Area, 5,276 sq. m. Pop. 266,237 (1903).

Leyte, lying to the S.W. of Samar, is separated from the latter by a beautiful narrow strait, called San Juanico. The capital of Leyte Province is Tacloban (370 m. from Manila; for reaching, see P. 7), which has a population of 12,000. Limasawa (literally, 'the Five Wives'), a small island lying to the S. of Leyte, was visited by Magellan in 1521, next after Homonhon, and here, on March 31st of the same year, the first mass was celebrated in the Philippines. Later, in 1543, when Ruy Lopez de Villalobos, commanding a fleet on a voyage of discovery, the third after that of Magellan's visited Leyte, he gave for the first time the name of 'Filipinas' to this and the adjacent islands.

Leyte is divided into E. and W. halves by a chain of volcanic mountains, running through the middle of the island from S. to. N., and actually barring all land communication between the E. and W. halves, there being no roads across the mountains. Communication between the two coast regions is therefore kept up solely by an irregular service of steamers, and the voyage is regarded as dangerous in the rainy season. Tacloban (capital; Pop. 12,000) is, however, connected by good roads with Palo (the former capital), Alanglang, Jaro, and Carigara (an older capital) in the N., and with Dagami, Burauen, and Dulag in the S.,—all being towns in the E. half of the island. On these roads there is maintained an automobile service, several times daily, for the conveyance of both passengers and goods. Leyte Province includes also Biliran and Panaon Islands, respectively N. and S. of Leyte. (For S.S. connection with Manila, see P. 7).

The province is rainy all the year round, but the real rainy season comes on between October and February. Typhoons come between September and January, particularly in November. The agricultural products comprise corn, rice, sugar, abacá, copra, *camotes*, etc. The inhabitants are mainly Visayans, who use the Cebu dialect in the W. part and in the E. the Samar dialect. Area, 3,008 sq. m. Pop. 388,922 (1903).

Bohol Province, comprising Bohol and smaller islands, lies between Leyte and Cebu. Tagbilaran (Pop. 10,000), on the S.W. coast of Bohol, is the capital of the province. Baclayon, a town to the S.E. of the capital, contains a beautiful church, built in 1594. Good roads run along the W. and S. coasts of the island, with Tagbilaran as the centre. The island of Bohol is of coral formation. It is mountainous, with intervening fertile valleys. The agricultural products comprise rice, corn, sugar, and copra. The inhabitants are mostly Visayans, but the Tagalogs, though constituting a minority from the leading element in most places. Property is nearly equally divided, there being few families who own no land. Area of the province, 1,511 sq. m. Pop. 269,223 (1903).

Cebu Province, which consists of the island of Cebu and twenty-nine adjacent islands of which Camotes and Bantayan are the larger ones, lies between Leyte and Bohol on the E. and Negros on the W.

Cebu (386 m. from Manila) in Cebu Is., situated midway along the E. coast, and the capital of the province, may be reached from Manila by various lines of steamers (see P. 7), usually taking 2 days. (Fares: from Manila ₱30.90; Cebu to Iloilo, ₱14.80).

Hotel: Cebu Hotel, rooms 16, rate ₱4 per day and ₱80 per month; Lalks Hotel, rooms 13, rate ₱4 per day and ₱70 per month; Hotel Dapat, rooms 4, rate ₱2 and ₱60 per month; Universal Hotel, rooms 10, rate ₱2 and ₱50 per month.

Consulates: China, Germany, Great Britain, and Norway.

Banks: International Banking Corporation, Hongkong & Shanghai Banking Corporation, Chartered Bank of India, Australia & China, and Chinese banks.

Newspapers: The Cebu Daily Chronicle (English). ***Clubs:*** Cebu Club, Cebu Golf Club, United Service Club, Club Español.

The city of Cebu (Pop. 70,000) is the oldest Spanish settlement, having been founded by Legaspi in 1565, forty-four years after the island was discovered by Magellan. In fact, this is the oldest European settlement in the Orient. The city is one of the three great ports of the Philippines. Its harbour is spacious and deep, with excellent docking facilities for large ocean-liners. It is a market for hemp and copra, which are brought here from neighbouring islands to be again exported. It has a large Chinese population and several American and European firms. Within the last decade, under the American régime, the city has made marked progress in the installation of modern equipments (telephone, electric light, cold storage, water system, etc.). The Philippine Railway Company's lines extend 64 km. to Argao (in 2½ hrs.; *fare*, ₱3.20) in the S. and 31 km. to Danao (in 1 hr. 10 min.; *fare*, ₱1.55) in the N.

The city has several sights of historical interest. On the main plaza is a small building, housing a large cross which was erected to mark the spot where Magellan and his companions gathered for the first mass in the Philippines. A short distance from it is the old triangular fort (San Pedro), standing approximately on the site of Magellan's fortification. The Augustinian Church (Santo Niño) and convent are in the same neighbourhood. In the church is the image known as the 'Holy Child of Cebu,' which, according to tradition, was given by Magellan to the temporarily converted wife of the chief of Cebu and recovered forty years later after the coming of Legaspi. Calle Colón is the oldest street in the Islands and is worth a visit, on account of its many time-worn buildings. The main street, running W. from the town and beyond the railway station, leads to the Provincial Building and the Provincial High and Trade Schools, and thence to the Southern Islands Hospital.

The Church of Cabatuan, Iloilo Province.

Among other places of interest in the neighbourhood of the city may be mentioned: Mabols (2½ km.), Guadalupe (3 km.), El Pardo (5 km.), Talisay (8 km.), a sea-bathing resort, Mandaue (6 km.), and the Waterworks (5 km.).

Mactan Island, at the entrance to the Cebu harbour and protecting it from high seas, was the scene of Magellan's death in his last fight with the natives. A monument marks the site of the battle, though the exact spot where the hero fell is uncertain. The place may be visited by taking a boat from Cebu to Opon and thence driving 8 km., or one may go by boat to a point as near the monument as possible. The island is resorted to, not only on account of its historical interest, but also for sea-bathing.

Cebu Island is traversed from N.E. to S.W. by a chain of low hills, known as the Central Range, of which the highest is but 600 metres above the sea-level. These hills give rise to a long belt of fertile plains along the coast on each side. A good road runs all along the coast, while there are two roads across the mountain range. One of these, extending from Cebu to Toledo, a distance of 48 km., traverses valleys and hillsides, covered with luxuriant tropical forests, affording views of intense interest. The other one runs from Carcar (40 km. to the S. by rail from Cebu) to Ronda (85 km. from Cebu), via Barili (19 km. from Carcar). Near Barili is a hot spring. On the road between Danao on the N.E. coast and Argao on the S.E. coast, automobiles are available (distance 95 km.; *tariff*, ₱3 per hour, ₱20–25 per day). The two towns are connected by railway, as already remarked.

The Province of Cebu consists of Cebu, Camotes, Bantayan, and other smaller islands. The coasts of Cebu Island, though well indented, have scarcely any harbour worthy of the name with the exception of Cebu itself. Bogo and Oslob are fit only for the mooring of launches. The climate of the island is remarkably equable. It suffers but rarely from typhoons, the last case of a serious typhoon occurring in 1912, and that immediately previous to it, in 1853. The thermometer registers on an average 86° Fahr. in the dry, and 81° Fahr. in the rainy, season, and there is but little change throughout the year. February, March, and April are considered the warmest part of the year. In the forests grow mangrove, rattan, nipa, buri, and an excellent kind of kapok. The island contains the largest coal deposits of the Philippines. Gold, iron, marble, and petroleum occur in small quantities. Hot springs are found at different places in the island, the well-known ones being those at Boloboloc and Malabuyoc (both sulphur springs), Tanawan (near Carcara), Barili, Inambang (near Malabuyoc), etc. The agricultural products of the province comprise corn (three harvests a year), sugar, coconuts, tobacco, gabi, peanuts. The inhabitants are Visayans, whose dialect prevails throughout the island, with a slight admixture of the Bohol on the W. coast. Area, 1,939 sq. m. Pop. 653,727 (1903).

Negros Island lies almost due W. of Cebu, from which it is separated by the Tañon Strait. The island is approximately 230 km. in length by 80 km. in its greatest width, and has an area of 4,881 sq. m. It is administratively divided into the two provinces of Occidental and Oriental Negros,—Bacolod being the capital of the former and Dumaguete that of the latter.

Bacolod (343 km. from Manila). *Hotel:* Casa de Huespedes de Bacolod, rate ₱3 per day and ₱60 per month; Messes, maintained

by American employees, where strangers may be accommodated.

Bacolod (Pop. 12,000) may be reached from Iloilo, an important port of call for steamers, by steamer-ferry to Silay (daily; time 4 hrs.; *fare*, P1.) to the N. of Bacolod, on the same N.W. coast of Negros, and from Silay by automobile over a good road of 20 miles. Near Bacolod are several large surgar-cane plantations. The town is in the neighbourhood of *Mount Canlaon* (or Malaspina), which is an active volcano, rising to an altitude of 2,500 metres (of which the first 1,800 metres are covered with forests), and with a crater covering 10 acres. The volcano is one of the most famous in the Islands. Mt. Canlaon may be climbed partly by carriage (or automobile), partly on horseback, and partly on foot, the ascent to the summit and return to Bacolod generally requiring 3 days. April and May are considered the only fit season for visiting the volcano. The Mambucal Springs, the medical effects of which are much talked of, may be reached in half a day on horseback. Bacolod is the centre of communication for the province. Two roads run from here along the coast, one to the N. and the other to the S. The road to the N. is first-class (metalled) as far as Alicante, whence to Cadiz it is second-class (cart road), while a trail runs from Cadiz to San Carlos, which is considered the best natural harbour in the province. The road to the S. is also surfaced as far as Binalbagan and is open to cart traffic all the year round as far S. as Ilog. Beyond Ilog to Isio, the path becomes impassable in the rainy season.

The Province of Occidental Negros is largely mountainous, though having a belt of very fertile plains in its central portion, extending from the coast inland for from 15 to 40 km. This region produces sugar and rice. The plains get narrow further N. and produce tobacco and corn. The highest mountains of the province are Mt. Canlaon (already mentioned), Mt. Marapara (7,900 metres), and Mt. Silay (1,500 metres). Both in the N. and S. parts of the province are extensive forests, rich in timber wood. At Cadiz and Sagay on the N. coast are large saw-mills of the Negros-Philippine Lumber Co. and of the Insular Lumber Co. The latter is the largest and most up-to-date mill in the Islands. In the S. forests hard wood timber abounds. It is brought to Iloilo (thence to be exported) in the form of huge rafts, some 600 pieces of timber being placed on bamboo-rafts, composed of 800 to 1,000 bamboos, which are tugged by steamers. Among minerals, coal, gold, sulphur, and gypsum are found. The province is the largest sugar-producing one in the Islands. There are about 700 sugar-mills, of which six sugar centrals are plants of the newest type. The largest is at San Carlos, while there is one at each of La Carlota, Kabankalan, Bago, Talisay, and Hinigaran. The inhabitants are mainly Visayans, with a small number of Bukidnon and Negritos. The latter, though the original inhabitants, have been driven into the mountainous regions by the former who came in later. Area, 3,130 sq. m. Pop. 308,272 (1903).

Dumaguete (438 m. from Manila; Pop. 14,894), the capital of Oriental Negros, is called at by coasting steamers which ply between Manila and Negros Island. There are also other boats from Cebu and Iloilo, and various non-contract steamers. The port has no pier, and ships are obliged to cast anchor at a roadstead half a mile from the shore, whence passengers are conveyed partly on small boats and partly on men's shoulders.

Among the sights of interest is an old watch-tower (built in 1811), to the right of the Plaza, now used as the bell-tower of a

church. This was one of the many watch-towers which were put up at different places by the friars, for guarding the coast against Moro pirates, whose inroads were for several centuries (even as late as 1873), a constant source of terror to the inhabitants. Near the coast is the Silliman Institute, founded by the Presbyterian Board of Foreign Missions, with the donation made by Dr. Horace B. Silliman of New York. The institute contains a preparatory department and classical and industrial courses. It has about 600 students. *Magao*, 14 km. S.W. of Dumaguete, is an active volcano. Its crater, which is several hundred feet in diameter from lip to lip, may be reached on horseback. There are several hot mineral springs, of various degrees of temperature, situated in a beautiful neighbourhood at a distance of 6 km. to the W. of the town. Lanao, due W. from Dumaguete, is a beautiful lake, occupying the site of a former crater. It is 3 km. long. There is a metalled road to Tanjay in the N., over which automobiles are available; also a cart road to Zamboanguita in the S.

The Province of Oriental Negros is largely taken up by mountains, which are well wooded, with a narrow belt of fertile plains on its E. coast. It is rarely visited by typhoons. The temperature ranges between 70° and 90° Fahr., and the nights are cool. The chief agricultural products are sugar-cane, abacá, corn, and copra, of which the first-named is the most important, raised chiefly in the neighbourhood of Bais. The best harbours are Port Bombonon on the S., and South Bais Bay on the E., coast, both well sheltered and safe in all weathers. The inhabitants are Visayans, besides 16,000 non-Christians, who are mostly Montescos, and a small number of Negritos, who live in the mountainous districts. Area, 1,864 sq. m. Pop. 201,494 (1903).

Siquijor Island, a sub-province forming a part of Oriental Negros, lies to the S.E. of Negros Island. It is very mountainous. A good road runs along the coast. Pop. 46,000, all civilized.

Panay Island, lying to the N.W. of Negros, is divided administratively into the three provinces of Iloilo in the S.E., Capiz in the N., and Antique in the W. Of these Iloilo is the most important.

Iloilo (Pop. 40,000), the port and capital of Iloilo Province and situated midway along the S.E. coast of the province, is the third largest city in the Philippines. *Hotels:* Cebu Hotel, rooms 19, rate ₱4 per day and ₱80 per month; Lalks Hotel, rooms 13, rate ₱4 per day and ₱70 per month; Hotel Dapat, rooms 4, rate ₱2 per day and ₱60 per month; Universal Hotel, rooms 10, rate ₱2 per day and ₱50 per month.

Iloilo (346 m. from Manila) may be reached from Manila or Hongkong by the following routes (see P. 7):

From Manila—

(1) Direct route by steamers (weekly service), which sail from Manila at 4 p.m. on Saturday and reach Iloilo at 6 p.m. on Monday (leave Iloilo at 4 p.m. on Tuesday and reach Manila at daybreak on Thursday). Fare, 1st class, ₱27.70.

(2) Steamers to Capiz, thence by rail to Iloilo: railway between Capiz and Iloilo,—distance 116 km. (72 m.) in 4 hrs.; two trains daily.

From Hongkong—

China Navigation Co.'s regular weekly service (see P. 8) to Iloilo, via Manila and Cebu (see P. 90).

Consulates: China, Great Britain, Norway, and Spain.

Clubs: Panay Club (American); Iloilo Club (English); Casino Español (Spanish); Swiss Club.

Conveyances: Livery Stables: The Park, the Iloilo, and the Panay; Carriages, *tariff*, ₱1 to 3 per hr. Auto. Garages: De la Rama Bros., Bachrach Garage; *tariff*, ₱3 to 6 per hr. Street Rigs: Minimum charge for a short distance, ₱0.10; per hr. ₱0.60.

The port of Iloilo is well protected, with a good anchorage for steamers of any size. It has excellent means of communication both by land and sea. There is a station of the Eastern Extension Cable Co., whose branch line connects the town with Bacolod of Negros, while with the interior the line operated by the Bureau of Posts connects it with practically all the towns in Panay. The town is lighted by electricity and has a telephone system.

Lying on the route of the coasting trade in several directions and commanding the W. entrance to the Visayas, Iloilo is a flourishing trading port, with a number of foreign firms. Most of the large banks and commercial houses of Manila have branches or agencies here. The River Iloilo, on the lower course of which the city is situated, has been dredged, so that ships of 18 ft. draught can go up as far as the custom house, which is 2 m. from the sea. The river is spanned by several strong bridges. The city is divided into the four wards of Iloilo, Molo, Mandurriao, and La Paz, of which the first-named is the most flourishing section. Molo is noted for the weaving of beautiful piña cloth, while in the environs of the city there are also made jusi, piña, and other woven fabrics. Schools: the High School, the Trade School, the School of Housekeeping and Household Arts.

Iloilo owes a great deal of its recent rapid growth to the opening of the railway between it and Capiz on the N. coast. In the line of domestic trade, Iloilo imports sugar, timber, and the raw material for the piña and jusi weaving (fibres of the Manila plantain and pine-apple leaves) from the opposite province of Oriental Negros, and exports rice, textiles, and other products of the surrounding regions. The city also carries on a considerable trade with Bohol, Leyte, and Cebu Islands, importing from the latter two islands a beautiful kind of mat. In foreign trade, sugar is the chief item of export, the amount sent abroad in 1912 to Japan, China, the United States of America, Great Britain, etc., being valued at over ₱13,000,000 (being 90% of the total amount of exports). The chief articles of import from abroad are rice (from Saigon) and miscellaneous goods from different countries,—the whole being valued at ₱8,000,000 (1912).

Highways. A first-class road extends along the coast towards the S.W. to Tigbauan, via Arevalo and Oton, and a cart road from Tigbauan to Miagao, via Guimbal. Similarly, a first-class road stretches almost due N. from Iloilo, passing through the towns of Jaro, Santa Barbara, Cabatuan, and Janiuay, and from the last-named place making a semicircle to Dumangas on the E. coast, via Pototan and Barotac Nuevo.

Sights of Interest in the neighbourhood: Fort San Pedro, at the mouth of the Iloilo, built in 1656 as a protection against the frequent raids of Moros; Arevalo, an old town where Legaspi's troops first landed; Oton (11 km. from Iloilo), the oldest town in Panay Island (built between 1575 and 1580), which became the base of expeditions for the subjugation of the whole island; Jaro (3½ km. from Iloilo), where there is an old tower; Molo (4 km. from Iloilo), containing an old church; Camp Jossman (Guimaras Is.); Dumangas, originally an important native town, has of late years become better known on account of the production of sugar and of piña cloth.

The railway station in Iloilo is in the barrio of Lapus Lapus, which is situated across the river from the water front and is reached either by a drive of about fifteen minutes from the steamboat landing or by the railroad ferry, starting near the same place.

LIMESTONE CAVE, DUMALAG, CAPIZ.

As already mentioned, Iloilo is connected with Capiz on the N. coast by a railway, and, going N. on this line, a traveller will pass by some interesting sights. Soon after leaving Ventura, there will be seen to the W. several high mountain cliffs of white coral formation. These contain a number of caves, which are of wonderful structure and great beauty. To visit these one should alight at Buntog (which is reached soon after entering Capiz Province) and go to Dumalag (4 km. from Buntog); the latter being a pretty village, lying on the bank of a river at the foot of the white mountain cliffs. Dumalag has a pleasant climate, with good bathing at Sohut Spring, though there are no lodging arrangements for visitors. The

caves are not far from each other and can be easily visited on foot.

The province of Iloilo was created by the first governor-general, Legaspi. The inhabitants are mostly Visayans. The prevailing dialects are the Hiligaynon, which is used by nearly ⅔ of the inhabitants, while the Ilongo (a mixture of the Hiligaynon and Spanish) is used at Iloilo, Molo, Mandurriao, La Paz, Oton, Jaro, and other interior towns, with more or less variation. The non-civilized tribes who constitute a small minority of the population, consist of Negros and Mundos (in the mountains near Maasin), the last-named possessing many curious customs. Agriculture is the prevailing occupation; the staples being rice, sugar-cane, corn, and tobacco. Fishery is also carried on to a considerable extent. As a house-industry at certain localities (viz. Molo, Jaro, Mandurriao, Arevalo, Dumangas, etc.), the weaving of fine kinds of cloth from the fibres of Manila plantain and pine-apple leaves, known as piña and jusi cloths, is an important industry. Similarly at Miago, San Joaquin, Guimbal, Leo, Tingauan, etc., cotton cloth is woven. Area, including islands, 2,027 sq. m. Pop. 410,315 (1903).

Capiz (249 m. from Manila), on the N. coast of Panay, is the capital of Capiz Province. Regarding the way of reaching this port, a contract vessel leaves Manila the 10th, 20th, and 30th of every month, arriving at Capiz the 13th, 23rd, and 2nd (*fare*, 1st cl., ₱22.40). Besides there are several non-contract boats without fixed sailing dates. This is a small town, connected by a railway of the Philippine Railway Co. with Iloilo (see Pp. 94-96). The place has no hotel, but there are 'messes' maintained by American employees, at one of which a traveller will generally find accommodation. The town has scarcely any sights of interest. The anchorage for ships is at Libas, near Capiz, whence passengers are carried by boat to the Capiz wharf.

Panay (literally, 'There is bread,' from *Pan-Hay*), to the E. of Capiz, is the spot where Juan Salcedo landed in 1563, in order to obtain food from a Malay village higher up the River Panay. Here he founded a colony and the place soon assumed importance, so that the Spanish galleons visited the place annually on their way between Acapulco (Mexico) and Manila. In those days the place had a dockyard. The town has lost its prosperity since the rise of Capiz, just as the last-named lost much of its importance with the change of course of the Panay River, which now empties its waters near Pontevedra (to the E. of Capiz), and the opening of a railway which has made Iloilo, instead of Capiz as formerly, the port of the Panay valley.

The province of Capiz (from Kapid, meaning twins), occupies the N.E. part of Panay. It is very mountainous, with a plain in the N. part, sloping down to the sea. Of its rivers, the Panay is the most important. The province is rich in timber. Agriculture and fishery are the chief occupations of the inhabitants. The more important agricultural products are sugar-cane, rice, abacá, etc. The native race is Visayan, with a small number of Negritos. Area including islands, 1,749 sq. m. Pop. 230,721 (1903).

The Romblon Group (The sub-province of) is a sub-province to Capiz and lies to the N. of Panay Island. The more important islands of the group are Tablas to the W., Romblon in the middle, and Sibuyan to the E., and these, together with numerous other smaller islands, lying on the interisland line of navigation between Manila and the Visayas, constitute one of the most beautiful parts of the route. There are two fine bays in this group, viz Romblon Bay on the Island of Romblon and Looc Bay on the Island of Tablas. Romblon Bay is in every way a fine natural harbour, with beautiful scenery. The town

of Romblon contains an old fort, built for the defence of the town against Moro raids. Looc Bay is situated on the S.W. coast of Tablas Island and has hidden coral reefs, which make the entrance into the bay quite dangerous. This is one drawback of an otherwise very fine natural harbour. The whole of Sibuyan and the N.W. part of Tablas are thickly forested. Mount Guitiguitin (2,000 metres), the peak of Sibuyan, is a conspicuous mark to many vessels. The inhabitants, who are mostly emigrants from the N.W. coast of Panay, number about 50,000. In Romblon and Odiongan are people showing traces of Tagalog blood. In Sibuyan there are about 500 non-Christian Mangayans, and in the mountain districts of Tablas a few Negritos. Communication with these islands is carried on exclusively by small sailing boats, while inland, horses constitute the only means of conveyance.

Province of Antique. This is a long, narrow, mountainous province in the W. part of Panay, separated by mountain ranges from the two other provinces of Capiz and Iloilo. San José de Buenavista is the capital of the province. The town is high up on a hill and enjoys a cool climate and delightful scenery. The Bay of San José is deep enough to accommodate steamers, but at its entrance are many dangerous, hidden rocks.

Steamers from Iloilo visit the coasts of Antique only between December and July, when the mountains shut off the N.E. monsoons and make the voyage safe. These steamers call at Culasi, Tibiao, Bugason, and Caritan, in order to take in sugar. Agriculture is the chief occupation, the staples being rice and sugar; fishery comes next. Trade is mostly in the hands of Chinese. At Sibalom is a large market, much availed of by the people of San José, San Remigio, etc. There is a good road (partly first-class and partly second-class) all along the W. coast. The inhabitants of the province are mostly Visayans, but Negritos, now constituting a very small minority, originally occupied the land. Before the Spaniards came, a number of 'datos' had come over from Borneo, who, purchasing lands from Negritos, formed settlements on the sea coasts. Malandog (originally called Die hóg han) and San José de Buenavista (originally called Mah-lah-eé-bah) had been the villages of the descendants of those Borneo settlers. Area, 1,134 sq. m. Pop. 134,166 (1903).

Palawan Province. This is constituted by a large group of islands, with Palawan Island as the largest, stretching from N.E. to S.W., and somewhat detached from the rest of the Philippine Islands.

Naming them from the N., they are the Calamian Group (comprising Busunga, Culion, Coron, etc.), the Cuyo Islands, Palawan Island, the Cagayanes Islands, and Balabac Island.

Puerto Princesa, occupying a middle position on the E. coast of the long Palawan Island, is the chief port and capital of this province. This town is reached from Manila by one of the contract steamers, which sail once in 20 days; time of transit, 4 days. Here there is a wireless telegraph station. On the opposite side, 8 m. across the bay, is the Iwahig Penal Colony, an experiment in the reformatory treatment of criminals. Here, over a thousand convicts who have conducted themselves well at Bilibid (see P. 52), in Manila, are allowed to settle, in charge of a few American and Filipino officials. They are permitted to invite their families to join them and are given an allotment of land. They engage in agriculture and certain trades.

In **Culion Island,** N. of Palawan Island, is the Philippine Leper Colony, where live about 2,300 lepers, in charge of a small number of Americans and a few sisters of St. Paul de Chartres. The colony is self-governing, the inhabitants electing their own council and supplying the policemen and other petty officials.

On the W. coast of Palawan Island, almost uninhabited and largely uncharted, is a remarkable underground river, which empties

itself into St. Paul's Bay, N.W. of Puerto Princesa. St. Paul's Bay, above mentioned, is so named from a majestic peak, with a wonderful limestone dome, which looks like a cathedral. Near it is another peak, called Liberty Cap from its peculiar shape. Beneath these mountains lies the underground river. The river has been explored several times by Government officials. Mr. Dean C. Worcester, former Secretary of the Philippine Government, went up the river for a distance of 3½ m. in a boat, beyond which he found it impossible to venture, owing to the presence of low, overhanging rocks. At present the place can be visited only by taking a long and expensive trip away from the main routes of travel, but, when it is brought within easy reach, it will doubtless come to be a great attraction to travellers.

Cuyo Islands lie between the N. part of Palawan Is. and Panay. Cuyo on Cuyo Islands is a large town (Pop. 12,000). These islands are the only ones in Palawan Province which belong to the volcanic zone, Palawan and all the rest being outside that zone. These Cuyo islands, being volcanic, have a level surface. The people make piña cloth, sinamy, and cotton goods. At Cuyo is a submarine cable office and a wireless telegraph station. The prevailing dialect is the Cuyono, which somewhat resembles the Visayan.

The island of Palawan originally formed a part of the sultanate of Borneo, but early in the 18th century it passed into Spanish possession. Mountain ranges extend throughout its length, containing 84 peaks between the heights of 300 and 2,100 metres. The highest of these is Mt. Mantalingahan (2,100 metres). On the S.W. coast of the island and near Bona-bona is Pagoda Cliff which is of limestone formation. The island is visited both by S.W. monsoons (May–November) and N.E. monsoons (December–April). Owing to this fact, the neighbouring seas are generally rough, and it is not safe to venture out in small boats. Typhoons are apt to come in October and November.

The flora of Palawan Island comprises some rare varieties of ferns, orchids, pitcher-plants, etc. Of the last-named kind, some are of a small, trailing variety, while there are others which grow into large trees, the pitchers or ascidiums formed by modified leaves having a holding capacity of 1½ pint of water each. Among the fauna, varieties are comparatively few; this is especially the case with mammals, with the single exception of monkeys, of which there are many varieties. There are, besides, some rare species of birds. Alligators are abundant in lakes and marshes. All kinds of reptiles are represented. There are large pythons, of which one recently caught was found to be 22 ft. in length and 375 lb. in weight.

The island produces good timber (viz. ipil, narra, acle, molave, duñgon, calantas) and a great quantity of rattan, which are exported to Borneo. The agricultural products of the province comprise rice, corn, and copra. Several American companies own large coco-palm plantations. Edible birds' nests (called balinsasayao) are obtained at various places, especially in the N. of Palawan Is. and in the Calamianes Islands, and form an important item of export to Canton. These fetch high prices, as high as five times their weight in silver, that is 9,000 dollars per picul. Ambergris is largely obtained on the shores near Cagayacillo, a town of Cagayanes Islands, which lie S.E. of Palawan Island. It is exported to Europe as a material for use in perfumery.

The inhabitants of the province number 35,000, of which Moros (3,000) live in the N. half of Palawan, and Tagbanuas (1,500) mostly round about Aboriian,—the latter are peaceably disposed and possess written letters of their own; Bataks (1,500), who resemble Negritos, live scattered about along the W. coast; the rest and the larger part of the population is made up of the Christians, living in the N. of Palawan and in the Calamianes and Cuyo groups.

LIBRARY

ZAMBOANGA
Scale Metres
0 50 100 150 200 250
REFERENCE NUMBER
1 City Hall and Police Station
2 Market
3 Governor's Residence
4 Custom House
5 Catholic Cathedral-Church.
6 Government Building and Post Office
7 Mindanao Hotel
8 Zamboanga Club
9 Bank of the Philippines
10 Plaza Hotel
11 St. Luke's Church (Episcopal)
12 Plaza Rizal
to Sta. Maria and Water Works
to Tetuan and Mercedes
Proposed Extension
to Country Club and San Ramon Park
SAN JOSE ROAD
Burleigh School Lot
CALLE CARMEN
CALLE SAN ENRIQUE
CALLE MAGAY
to Kawa Kawa and Pilar Hospital
Sta. Maria Canal
CALLE ALCARRAGA
CALLE FELIPE
CALLE EGASPI
CALLE URDANETA
CALLE BARCELONA
CALLE ISABEL
CALLE SAN CARLOS
Plaza Pershing
Plaza Salcedo
CALLE PARRADO
CALLE JOVELLAR
CALLE PILAR
CALLE SAN JOSE
CALLE SEVILLA
CALLE MARAW
CALLE ZARAGOZA
CALLE MADRID
CALLE CARLOS
CALLE VILLALOBOS
CALLE CLAVERIA
CALLE CERVANTES
to Talon Talon
TETUAN ROAD
Military Reservation
Army & Navy Club
Fort Pillar
to Rio Hondo
Military Hospital
Government Pier
Chinese Pier
BASILAN STRAIT

Route IX. Zamboanga and other places in Mindanao and Sulu.

Mindanao is, next to Luzon, the largest island in the Philippines. Comparatively speaking it is sparsely populated; but the island is rich in natural resources. Owing to considerations of geography, race, and history, the island is divided into several administrative divisions. Excepting the two provinces of Surigao and Misamis in the N.E. part of the island, the rest of the island—by far the larger part—constitutes the so-called Moro Province and belongs to the new Department of Mindanao and Sulu, being governed under a system somewhat different from the two other provinces above-named. The whole central part of the island is covered by virgin forests, rich in precious timber. The island also contains extensive areas of promising agricultural lands. The chief agricultural products are copra, sugar, cacao, abacá, and rice. Much progress is now being made in the exploitation of these natural resources. Apart from the great beauty of the tropical scenery, the chief point of attraction to the tourist is Zamboanga, the chief city of the Moro Province and capital of the Department of Mindanao and Sulu.

(A) Zamboanga.

Approach to Zamboanga. A vessel approaching Zamboanga from Manila or Singapore, after passing San Ramón Farm and Caldera Bay, veers rapidly to the E. and enters the Straits of Basilan. In Oct., 1521, Magellan's two surviving ships, the 'Victoria' and the 'Trinidad,' on their way from Borneo to the Moluccas, passed near two settlements called Cavite (near Caldera) and Subanin (?).

The large island on the S. is Basilan, about 17 m. from Zamboanga, while two smaller ones, which partially enclose the harbour of Zamboanga, are Santa Cruz Chico (Small Santa Cruz) on the W. and Santa Cruz Grande (Great Santa Cruz) on the E. As one notices the numerous reefs and swirling currents—the tide sometimes racing at 8 m. per hour—one is filled with admiration for those intrepid old Spanish mariners, who were able to guide their unwieldy sailing vessels through these unkown waters in safety.

On the left, the tower of the wireless station marks the site of the Country Club. Coconut groves and white beaches succeed, until the Moro village of Kawa-Kawa appears in a curving sweep of the bay. Just behind the wharf appears the cement dome of the City Hall. To the right rises the Department Building with tiled roof and low tower (earthquake-proof). Farther to the E. may be seen the houses of the military reservation, a frowning corner of Fort Pillar, and the Quarter-master's shops and ice-plant.

Beyond the buildings and the clustering coconut groves of the coastal plain, here about three miles wide, rise the low foot-hills of the Zamboanga range of mountains. The low, round hill in the centre, called Pulungbatu, marks the point through which the Tumaga River issues from its mountain gorge.

Arrival. Zamboanga, the capital of the Department of Mindanao and Sulu, may be reached by steamers from Manila, Singapore, or Australia. With Manila, the various interisland lines have regular communications. Steamers of the Straits Steamship Co. have a regular service to Singapore. The North German Lloyd ran a similar line before the outbreak of the European war. The Nippon Yūsen Kaisha's Australian line steamers call at Zamboanga on both north and south bound trips Interisland steamers and steamers plying from Zamboanga furnish transportation to Jolo, Cotabato, Davao, Lanao, and other points in the Department.

Hotels. Mindanao Hotel, adjoining the Department Building, ₱5.00 per day, ₱85–90 per month. Plaza Hotel, on Plaza Salcedo, ₱5.00 per day, ₱85–100 per month.

Foreign Consulates. British Vice-Consul, office of Stevenson & Co., Calle Madrid; German Consular Agency, office of Behn, Meyer & Co., Calle Madrid.

Government Offices. The Department and Provincial Government offices are in the Department Building, immediately to the E. of the pier entrance. In the same building are the government post and telegraph offices. The government telephone system covers Zamboanga City and connects the latter with the villages from San Ramón to Kuruan.

THE CANAL AND THE OLD FORT, ZAMBOANGA.

Curios. The Central Station, maintained by the Zamboanga Trading System, on Calle Carlos, handles a limited amount of brass-ware, native mats, and curios. Various pawnshops situated on Calle Felipe II and Calle Magay also occasionally have fine pieces of brass-ware for sale.

Clubs. Zamboanga Club, Calle Madrid; Army & Navy Club, Military Reservation. Country Club, with golf links, 3½ km. out on San Ramón Road.

Bank. The Bank of the Philippine Islands, Calle Madrid.

Schools. Public primary schools, with fine athletic field, are on the Burleigh school lot to the S. of San José Road. The Normal School is located on an ample site between San Ramón Road and the beach. The Roman Catholic schools are in the convents near the Cathedral.

Newspapers. Mindanao Herald (Eng.), El Pueblo, El Fenix, and La Voz del Pueblo (latter three Spanish).

Churches. The Roman Catholic Church is situated to the W. of the pier approach. The Church of the Holy Trinity (Episcopal)

is on Calle Villalobos, to the N. of Calle Carlos, as one enters the Military Reservation.

Transportation. Both the above-mentioned hotels maintain garages, and there are many street carriages and automobiles. Automobile hire is ₱3.00 per hour and upward. There are also *jinrikishas*, not found in the Philippines, save here and in Jolo. They are drawn by Moros; and the rates are ₱0.10 for a single trip within the city limits or the military reservation, and ₱0.30 by the hour.

Climate. Zamboanga is situated in 6°54′ N. lat. and 122°5′ E. long. The climate is characterized by a remarkable evenness of temperature and a comparatively small rainfall. There are few mosquitoes or other disagreeable features. Zamboanga is below the typhoon belt and is never visited by the destructive storms which sometimes occur farther N. The following tables will show the essential facts regarding temperature and rainfall at Zamboanga and other points in the Department.

Mean total annual rainfall during the last ten years of eight principal points of the Department, expressed in mm.

	Annual Total.		Annual Total.
Agusan Prov.:		Sulu Prov.:	
Butuan	2,105.8	Jolo	1,865.9
Cotabato Prov.:		Zamboanga Prov.:	
Cotabato	2,309.1	Dapitan	1,871.8
Davao Prov.:		Isabela	1,794.1
Caraga	2,432.0	Zamboanga	926.4
Davao	2,340.7		

Mean temperatures of Zamboanga for each month of the year 1914:

Months.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean. Temp. Fahr.	79.5	78.8	79.3	80.4	80.8	80.2	80.2	80.2	80.2	80.1	80.6	80.1

Population. The city has a population of about 24,000. It consists in the main of Moros and Zamboangueños—that is, Christianized Filipinos of various stocks, of whom a considerable number are the descendants of slaves and captives escaped or rescued from the Moros; but there is a large admixture of other Filipinos, Orientals, and Caucasians. That the first two of these elements are the most important in the population testifies to the great historic interest of the city, for Zamboanga was for more than three centuries the rallying point of the Christian forces in their seemingly endless contest with the Mohammedan pirates of these eastern seas. The Mohammedan Filipinos, who form a small but picturesque part of the population of Zamboanga, have as many different costumes as comic opera queens. Here is a stalwart young gallant with tight-fitting, emerald-green trousers and brilliant red silk zouave jacket. Near him stands one clad in baggy, bell-bottomed, black trousers and yellow vest. Their head-dress, either turban or *fez*—for the good Mohammedan must wear no brimmed hat when he bows his forehead in prayer to the earth—is as striking as their other clothes.

The women also are gaily bedecked, beringed, and bejewelled, and they also wear trousers. Among the visitors are also the Bajaus

or Sea-Gypsies, the long-haired Yakans, or Hill Moros, from Basilan, and the timid and woman-faced pagan Subanuns from the hills of the Zamboanga Peninsula, Chinese, Malays, Indians, and other eastern peoples.

The approach to the wharf. As the visitor comes up from the wharf, he is at once introduced to some of the adornment for which Zamboanga has become famous. The approach to the wharf from the city is a causeway with concrete 'bougainvillea' vases (so called from their shape) on each side. On the left are the Custom-House and sunken gardens surrounded with 'lotus' vases.

Sights in the City and its Environs.

Department Buildings. When the tourist lands at the wharf, he observes a building on the right. This is the Department Building, a handsome structure of concrete blocks and hard woods, with tiled roof. This building contains the offices of the Department and Provincial Governments and several Insular branches, including the Post and Telegraph Office. The inside of the building is well worth inspection, being finished in hard woods, all from the vicinity of Zamboanga, and including *molave*, *ipil*, *narra*, *and tindalo.* The panelled partitions are of *calantas*, while the outside walls are made of *cubi*, a kind of wood which burns with difficulty.

Canal. In front of the Department Building is a canal of fresh water, partially covered over, which runs completely through the town and the military reservation. Its banks are lined with wild almond, or *talisay*, trees, whose foliage by day gives a welcome shade and at night shelters hundreds of 'flying foxes'—huge bats with wings measuring three feet from tip to tip. After dusk these bats feed on the wild almonds, and the chattering and scuffling which accompany the meal can be heard for far around. In the early morning the ground is littered with almonds gnawed and dropped by the bats during the night. Every evening at dusk the bats may be seen winging their way to the mainland from the 'batteries' on the Santa Cruz Islands off Zamboanga. In front of the Custom House and the Governor's residence, aquatic plants, lilies, ferns, and air plants, set in vases of coral rock, give the canal a most picturesque appearance.

The Roman Catholic Cathedral and Convent. Immediately across from the almond trees and the canal are the cathedral and convent of Zamboanga. As early as the year 1596, twenty-five years after the foundation of Manila, the Society of Jesus had begun their labours in the Zamboanga district, and when Zamboanga was founded in 1635, the Jesuit missionaries erected a church and took up their permanent residence here. In 1912, Zamboanga became the seat of a bishop.

Plazas. Between the Roman Catholic Cathedral and the Department Building is Plaza Salcedo, from which a smaller square, Plaza Rizal, beautifully adorned with shrubs and trees, extends along Calle Carlos I towards the military reservation. Just beyond

the Roman Catholic Cathedral is Plaza Pershing, with concrete arches and band-stand adorned with hanging gardens. To the left from Plaza Pershing leads Calle Felipe II, the most lively business street of the city.

The Army Post. Passing through the small plaza up Calle Carlos I, the military reservation containing the Army Post is reached. The latter is officially known as Pettit Barracks and with its shady drives and walks, its picturesque canal shaded by coconut palms, it is rightly considered to be one of the prettiest posts in the Islands.

Fort Pillar. At the E. end of the military parade ground rise the gray ramparts and bastions of the fortress of Our Lady of the Pillar, commonly abbreviated to Fort Pillar. It is a fine specimen of old Spanish fortification, and around the walls of no other fortress in the Islands has war raged so continuously. It was built of the coral rock so abundant in this vicinity, according to plans prepared by Father Melchor de Vera, S.J. It is nearly square, the principal bastion being protected by orillons projecting nearly directly S. towards the sea. The first stones of the fort, then called San José, were laid June 23, 1635.

At that time, there is no doubt that the Tumaga River delivered part of its flood, by various channels across the plain now covered with rice fields, into the swamps which all but surrounded the site of the new town. The River of Zamboanga, coming out of these mangrove swamps, discharged a by no means inconsiderable volume of water and was a favourite dwelling place for the Moros, who built their homes over piles in the water. The river ran close to the N.E. side of the fort and found one narrow outlet to the sea, just beyond the present hospital building. The main current, however, continued E. behind a low sand spit and emptied into the sea near the present mouth of Rio Hondo. The river could at that time be entered by galleys and light-draught boats of all kinds, and, accordingly, the main gate of the fort was placed on the river side, in the place now walled up and occupied by the Shrine of the Pillar. The new fortress was supplied with fresh water by a canal dug in 1637—probably a portion at least of the present Santa Maria Canal, which taps the Tumaga River in the foothills and brings a stream of fresh water a distance of 6 km. across the plain to feed the canal already described.

Upon the reoccupation of Zamboanga in 1718, the fort, which seems to have been pretty much destroyed during the fifty years of abandonment, was rebuilt on the old foundations and began to be called Fort Pillar, as the inscriptions show. At this period, a palisade was constructed around that portion of the town which could not be accommodated within the walls of the fort. Within this inclosure, having roughly an area of 5½ acres, was located the Spanish town, the barracks for the native soldiers, the hospital, shops, governor's residence, cathedral, etc. These palisades and walls existed until about 1860, when they were considered no longer necessary and were demolished. The central portion of this old walled town is now occupied by the Post baseball grounds. From 1899 to 1913, Fort Pillar served as headquarters for the American Army, but it is now practically abandoned.

Shrine of Pillar. The shrine of Nuestra Señora del Pilar (Our Lady of the Pillar), as has already been stated, is in the wall above the ancient main gate in the N.E. side of the fortress. Upon the apex of the frontispiece of the walled-up gateway is roughly carved a rude facsimile of the original statue of Our Lady of the Pillar of Zaragoza, Spain, so-called because the Virgin Mary is there repre-

sented as standing on a truncated pillar. About a metre below, the arms of Spain are sculptured just above the former entrance. Both sculptures have inscriptions immediately below, that beneath the Spanish arms, translated from the original Spanish, being as follows:

"While Spain was being ruled by His Catholic Majesty Don Felipe V., Emperor of the New American World, and these Philippine Islands were being governed by the very illustrious Field Marshal, Don Fernando Bustillo y Rueda, Governor and Captain-General, this royal fortress of Our Lady of the Pillar of Zaragoza was established and rebuilt by the illustrious General Don Gregorio Padilla y Escalante, on the eighth of April of the year 1719."

The date here given probably represents the year during which the reconstruction of the fort was completed, since, according to reliable authorities, it was begun in 1718.

The other inscription, at the foot of the sculptured Virgin, reads in English thus:

"While Don Juan Antonio de la Torre Bustamante was governing this fortress, this frontispiece was made in January, 1734."

From the first inscription quoted above, it is clear that when the fort was rebuilt in 1718-9, Our Lady of the Pillar was the patroness of the place, and the second inscription shows that the sculptured image of the castellan was in its present position in 1734 —possibly before. When the special cult devoted to this image originated is not known. It is supposed to date, however, from the signal victory* obtained over the English in 1798, since it is related that the volunteers in the trenches before the action fervently implored the patroness of the fort for aid and protection. The complete and remarkable victory obtained naturally enhanced the prestige of the castellan.

*On the 21st of Jan., 1798, an English squadron, consisting of one frigate and six smaller vessels, attacked the town, but was repulsed after some bloody engagements.

The days especially devoted to this shrine are the 15th of September and 12th of October. The first commemorates the uprising of the prisoners in 1872, upon which occasion, it is stated, as the mutineers were preparing to march upon the town, they were terrified by seeing Our Lady of the Pillar at the head of numerous combatants, who made ready to resist their approach. This celebration, however, has already fallen into disuse. The second date, October 12th, is the date of the calendar especially devoted to *Nuestra Señora del Pilar* and is the occasion of a procession from the cathedral to the shrine. Almost every afternoon, however, and especially on Saturdays, throngs of the faithful from Zamboanga may be seen kneeling in front of the shrine, while their candles burn at its foot.

The Hospital and Ice-Plant. Beyond the fort are the army hospital and the ice-plant, the latter a few hundred yards further down the beach on the bank of the Rio Hondo, or Deep River. This slough is all that is left of the former River of Zamboanga. Its flow is diminished, because the Tumaga River no longer contributes part of its flood as of yore, and because the swamp has been

largely filled in. Moreover, its mouth has, by continuous silting, been moved several hundred yards to the E., but it still furnishes anchorage for launches and small craft which run in for shelter.

City Hall and Market. Retracing our steps from the Army Post to the Cathedral, we may follow Calle Madrid, which runs along the canal, straight to the City Hall. Just to the left of the City Hall is the Zamboanga market, daily thronged with buyers and sellers of the various fruits, fish, meat, and vegetables of the country. The visitor will see many new things here,—many strange fruits and fishes. Many of the latter are marvellously coloured and striped, and among them may be seen the pike-like *rompe-candado*, the mullet *mantis*, and the huge mackerel, *tanguingue*. Zamboanga has one of the best fish-markets in the world, both for variety and quantity. Huge turtles may often be seen in the market, specimens four to five feet in diameter being no rare sight.

Boobies in Fright and Settled, Tubbataja Reef, Sulu Sea.

Constabulary Headquarters. Turning to the left past the front of the City Hall, one is in Calle Magay, which, running between Chinese shops, comes out on the beach and shortly passes on the right the Headquarters Building of the Constabulary of the District of Mindanao. The interior is artistically decorated with Moro weapons, shields, mats, and brass, and the Constabulary officers are always glad to show visitors over the building.

Hospitals. On the right of the beach road, beyond the Constabulary headquarters, are two hospitals. The first, called the Zamboanga Hospital, is the property of the Episcopal Church, and the second, a few hundred yards further W., is the Pilar Hospital, managed by the Roman Catholic Church. The shady palm groves

in which the hospitals are located, the coral beach where the surf rolls up from the Sulu Sea, the low-lying green-coloured Santa Cruz islands, and the blue hills of Basilan in the distance, constitute surroundings which make this spot an ideal one for the sick and convalescent. When the sun dips below the horizon, and the broad bosom of the ocean burns with orange or copper hues, the scene becomes one which is not easily forgotten.

Kawa-Kawa. A little farther on, beyond the two hospitals is the Moro village of Kawa-Kawa, the houses being built over the water, as is the custom of Mohammedan Filipinos (often called Moros). Along the beach may be seen scores of Moro fishing craft, *sakayans*, *sapits*, and *lipas*. These boats well repay study, being in their way models of marine architecture, built for speed and ease of handling, with sharp prows and lean, springy outriggers. Their picturesque sails of many colours often decorate the waters of the Basilan Straits. The scene along the beach is very animated, with the continual going and coming of the *sakayans*, the arrival of the fishermen, and the general movement of the floating village, for many Moros live in their boats and rarely set foot ashore.

Burleigh School Lot. One can now retrace one's steps and turn to the left, just before reaching Constabulary Headquarters, into Calle Adobes, so called because *adobe* (sun-dried) bricks were at one time produced from the clayey soil of this vicinity. Two minutes' walk brings one to San José Road, by turning to the right along which, return may be made to Calle Felipe II. On the S. of San José Road is a concrete school building with gardens and athletic field.

The Drives. The most blasé tourists have exclaimed at the beauty of the drives leading from the town of Zamboanga along the beach and into the foothills of the near-by mountains. They usually lead through lanes of coco-palms, which give welcome shade even at noon, while in the evening the lights and foliage are very wonderful. There are many native houses along the roads, frequently surrounded by gardens glowing with tropical and sub-tropical flowers. Sometimes the road leads over an upland of coarse *cogon* grass, where cattle and horses graze, or skirts the beach, where the surf of the Sulu Sea rolls up almost to the road bed.

There are three main roads leaving Zamboanga: first, San José (or San Ramón) Road, leading to the Mesa, Country Club, Ayala Beach, and San Ramón Penal Farm; second, Santa Maria Road, to the barrio of Santa Maria, the foothills, and the gorge where the waterworks are located; third, Tetuan-Mercedes Road, which branches to Tumaga, Talon-Talon, and the Salt Pans. A brief description of each road and of places of interest along it will guide the visitor in choosing drives or walks.

San José Road. Follow Calle Felipe II and turn to the left, passing the school grounds. The road traverses coco-palm groves and gardens, with an occasional vista across rice fields to the N. hills. Four kilometres from Zamboanga a turn to the right leads to San Roque and Loop Drive. Leaving that for the present, and

keeping straight on, the road rises gently to the Mesa, a grass-covered plain about one hundred feet above the sea level.

To the left, on the edge of the Mesa above the sea is the building of the Country Club, with splendid golf links attached. The building commands an extensive and picturesque view, overlooking the Basilan Straits. Near the club is the wireless telegraph station with its tall tower, from which messages are flashed to Jolo Malabang, Davao, and many other stations.

Continuing across the Mesa for about 2 km., the road drops down to sea level again and soon comes out on Ayala Beach, which it follows, with occasional short detours inland, to San Ramón Penal Farm, about 22 km. (13½ m.) from Zamboanga. The scene is one of entrancing beauty. On the right are deep groves of cocopalms, with here and there graceful clumps of bamboo arching over the road. Here the surf surges up to the curb of the road and the open Sulu Sea sparkles away to the horizon. A moment later, the road curves inland and charming vistas of the sea are offered through the palms and brush. In one place the road fords the Sinonoc River, which ripples over its gravel bed like a trout stream in California. At about 14 km. from Zamboanga, the barrio of Ricodo, or Caldera Bay, is passed.

Caldera. Caldera was an important station in the early days of Spanish rule. A wooden fort was erected here by Ronquillo in 1598, when that chief was returning from his ill-fated Cotabato expedition. The site was abandoned in 1600, but continued to be a watering place for passing vessels, and especially for the 'Succour of Ternate,' or expedition to Ternate which the Manila Government sent annually, while Portugal formed part of the Spanish kingdom (1580–1640). Later, when Zamboanga was established, a fort was also erected at Caldera and administered as a sub-post of Zamboanga. The fort was at first of wood, but was later—at some time during the last century—replaced by a substantial one of masonry. Between the present Moro town and the coal pile are seen the picturesque ruins of this stone fort, now almost concealed by the surrounding trees, which once guarded the town and harbour. It may be interesting to note that the odd shape of the little bay is responsible for the Spanish names of the bay Caldera ('boiler') and the settlement, Recodo ('bend'). The civil authorities maintain a coal pile here, and vessels of the deepest draught can approach to within a few yards of the shore.

San Ramón Penal Farm. About 7 km. beyond Recodo, the road we have been describing enters the San Ramón Penal Farm. In front of the main entrance to the prison inclosure stands a crude, square monument, bearing a Spanish inscription, which, translated into English, reads as follows:

"To the Illustrious Founder of this Colony, the Most Excellent Lieutenant General Don Ramón Blanco y Frenas, Marquis of Peña Plata, August 31, 1870."

San Ramón was first used as a penal settlement by the Spaniards in 1869. The colony was formally inaugurated on August 31, 1870, so the date of the monument is apparently that of its erection. Since 1910, the farm has been

used for penal purposes by the American Government in the Philippines. The reservation contains 1,802 hectares of splendid agricultural land and 27,000 coconut-trees, besides minor plantings. Coconuts form the staple product and there is space for 100,000 when the farm is fully planted.

About 500 prisoners are confined here. Their activities are entirely agricultural: besides the coconuts, they cultivate extensive fruit and vegetable gardens and cornfields, and look after a herd of cattle. Of the prisoners confined here, fully 50% are 'trusties,' which means that they are placed on their honour, work without guards, and are given a considerable amount of freedom. The life there, with plenty of healthful exercise in the open air and abundance of food, 90% of which is produced on the farm itself, is conducive to health and contentment among the prisoners. When discharged, a prisoner, especially a 'trusty,' has learned habits of regularity, of discipline, and of responsibility, and is a skilful cultivator of the land. Unique among prisons, San Ramón Penal Farm discharges its time-expired inmates better and more manly men than they were before entering. The clean, airy buildings of the prison, constructed of concrete with red tiled roofs, surrounded by luxuriant coconut-trees, and having a beautifully kept lawn and grounds, emphatically mark a new era in prison policy and constitute an undying monument of man's humanity to man.

The Loop Drive. A very attractive circular drive from Zamboanga leads out along San José Road for about 4 km., then to the right to San Roque Corners, to the right again across the rice fields to Santa Maria Road, by which the return to Zamboanga is made. This trip gives a magnificent view over hundreds of hectares of the finest imaginable rice fields, which constitute the granary of Zamboanga. When the paddy-fields are covered with growing rice, the evening landscape of green, backed by the purple foothills on one side, and fringed with coconut-palms on the other, is of extraordinary beauty.

Santa Maria and the Waterworks. This road leaves Zamboanga by Calle Felipe II and goes straight to the hills. A smooth automobile road leads through the thickly-settled barrio of Santa Maria, and, turning sharply to the left, begins the ascent. The crest of the ridge is about 600 ft. above sea-level. The view obtained here is one of cultivated, coconut-fringed plains and forest-clad or grassy foothills with fertile valleys in between. Further out, the roofs and towers of Zamboanga, the Santa Cruz Islands and Basilan, with various clusters of islets to the left, give a pleasing variety to the ocean view. At one's foot is the picturesque gorge of the Tumaga River which supplies Zamboanga with water. If desired, the automobile may descend by a winding road into the gorge, where there is a riot of tropical vegetation and a small but picturesque village hidden beneath the ubiquitous coconut-palm.

About 3 km. up the gorge is the intake of the Zamboanga waterworks system, the water being conducted by a gravity concrete pressure pipe along the bank and through tunnels to the reservoir established just to the right as one reaches the crest of the ridge. From this reservoir the water is piped 7 km. across the coastal plain to Zamboanga. Just below the reservoir is to be established the power-plant which will supply Zomboanga and vicinity with electric light.

Tetuan Road. This road leads out along Calle Joveller across the rice fields to the N.E. of Zamboanga. A kilometre and a half from Zamboanga, the road turns to the right and a narrower one goes straight on towards the hills. The narrow road runs through

terraced paddy-fields to the Tumaga River, where it ends. A short distance before reaching the river a branch turns to the right, making a pleasant drive along the banks of the Tumaga River, shaded by bamboos and palms. This road may be followed back to Zamboanga by a circular route through Tetuan, or, at the San Bernardino Bridge, one may turn to the left and drive for miles through rolling country and beautiful scenery, landscape and sea views, to the towns of Mercedes and Manikaan, the latter 28 km. from Zamboanga.

Retracing one's steps to the parting of the roads, 1½ km. from Zamboanga, the broad road leads direct to Tetuan and ends about 3 km. further down on the banks of the Tumaga River. Before this, however, a turn to the right leads down to the salt pans. The sea is hidden by mangrove swamps, but these have been cleared of trees for many acres and salt pans for the evaporation of the sea water have been formed. Here may be seen the production of the coarse, granulated salt extensively used in this country. The return to Zamboanga may be made by the road which leads straight across the rice fields from the salt pans to Balete and Calle Jovellar.

Santa Cruz Islands and the Sea Gardens. About 2 m. across from Zamboanga, in the Straits of Basilan, are the Santa Cruz Islands—Large and Small Santa Cruz, twin gems of coral islands with lagoons, coral reefs, sandy beach, and palm trees—the typical atolls that one often reads about, but so rarely sees. The submerged coral reefs near the islands are true sea gardens, where fantastic and wonderfully shaped and coloured corals are the homes of fish, cuttle-fish, pearl oysters, octopi, and other marine monsters. It is fascinating to lean over the side of a boat and watch the panorama of sea-life below and the beautiful 'butterfly' and 'demoiselle' fish flitting in and out between the corals.

Dapitan. On the N. coast of Zamboanga Province is a place called Dapitan, where Dr. Rizal lived between 1892 and 1896 as an exile from Manila (see P. 50). The relief maps of Mindanao constructed by him may still be seen here. It is intended to make the place round about the house he occupied into a public garden before long.

Dapitan may be reached by a weekly contract vessel from Cebu, which leaves there at 6 p.m. on Monday and arrives at Dapitan at 6 a.m. on Wednesday; returning, the steamer leaves Dapitan at 8 a.m. on the latter day and arrives at Cebu at 6 a.m. on Saturday. The fare, first class, from Cebu to Dapitan is ₱9.70.

Bird Islands. In the Sulu Sea there are some wonderful 'bird islands,' where myriards of boodies make their colonies. It is very interesting to visit these islands, which are 160 m. from Zamboanga and 135 m. from Iloilo. The round trip by steamer takes 2 days.

(B) Other Places in Mindanao and Sulu.

The Department of Mindanao and Sulu occupies all of the island of Mindanao, except the two provinces of Surigao and Misamis, situated on the N.E. coast. The Department consists of seven provinces: Agusan, Bukidnon, and Lanao in the N., Davao, Cotabato, and Zamboanga in the S., and the province of Sulu, comprising the

archipelago of the same name, which stretches from Basilan, the island just south of Zamboanga, to the coast of Borneo. The total land area under the control of the Department is approximately 36,540 sq. m., or about one-third of the total land area of all the Philippine Archipelago. This is more than the combined areas of all the islands of the Philippines not included in the Department, excluding only the island of Luzon. Or, to give a comparison with States of the American Union, this area is a thousand square miles greater than that of the six states of New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, and Delaware combined. The population has never been accurately determined, but the latest estimates give a total of 626,086, or only 19 to the square mile.

The principal exports are hemp, lumber, copra, pearls and pearl shells, gum copal, and lumbang (candle) nuts. The Department possesses the richest virgin forests in the Islands and unlimited land especially adapted to the cultivation of hemp, coconuts, rubber, and rice, as well as vast stretches of grazing land. The seas abound in food fish, pearl shells, pearls, sponges, and other forms of marine wealth.

MAIN GATE OF THE TOWN OF JOLO, SULU.

Trips to the other provinces will be interesting and may be made on boats which stop several hours, or even a day, at the principal ports, for the purpose of receiving and discharging cargo. But, as accommodation is usually lacking, except such as may depend on the courtesy of officials or others, a stop-over at points outside of Zamboanga is not recommended, unless one has friends at such places.

The two provinces of Surigao and Misamis are only partially inhabited by Christian Filipinos, who have immigrated from the Visayas. These regions are difficult of access, and, besides, do not offer many attractions to the ordinary tourist.

Sulu Province. The Zamboanga-Singapore boats, as well as many interisland boats, stop at Jolo, the capital. The latter is a

beautiful little town on the island of the same name. It is the smallest walled town in the world, the wall being just 1 km. in circumference. The wall was built by the Spaniards after their permanent occupation of the place in 1876, as a protection against the impetuous attacks of the Sulus. As one goes up the wharf, the government building, containing the post-office, custom house, and other government offices, is passed immediately on the left and the military hospital on the right. Continuing straight up from the wharf on Calle Marina, one enters Plaza de la Marina, beyond which one sees the Post headquarters' building on a slight eminence. The latter was anciently the site of Datu Daniel's cotta, which offered an heroic resistance to the Spaniards. The site was considerably higher at that time, since a great portion of the sea front of Jolo is a filled-in swamp, for which material was obtained partly from this eminence. Now turning off the Plaza to the right along Calle Sanchez, one passes the Roman Catholic Church, and, continuing, leaves the walled city by the New Gate. On the left is the market, and, passing over a small bridge, one enters the barrio of Tulai by the Paseo de Arolas. Turning then to the right, the central plaza of Tulai is reached. On the beach to the right is the new Civil Hospital, and on the left, the residence of the Sultan. In the centre stands a fountain, erected by General Arolas in 1891 to the memory of the three most renowned Spanish conquerors of Jolo, and giving the dates of their most memorable conquests. On the four sides of the monument are inscriptions, which read in English as follows:

"To the glory of those, who by their efforts made this land Spanish."
'Corcuera, 17th April, 1638'; 'Urbistondo, 28th February, 1876';
'Malcampo, 29th February, 1876'.

Proceeding one block beyond the plaza, the Chinese Pier is reached. This is a long wooden pier extending more than ½ km. into the shallow waters of the bay. Along this pier are built shops handling every conceivable class of merchandise, but especially the peculiar products of the country, such as pearls and pearl shells, sea-slugs (*bêches de mer or trepangs*), copra, hemp, and so forth. Here also one may observe an extraordinary mixture of peoples—native Mohammedans, Chinese, East Indians, Arabs, and Malays, with all possible degrees of intermixture. The odours and sights of the Chinese Pier may not be particularly pleasing to the fastidious, but, if one is interested in eastern humanity, there is no more bizarre sight in the whole Far East than the Chinese Pier of Jolo.

Retracing one's steps to the Paseo de Arolas, a walk of about a kilometre through a magnificent avenue of coconut-palms brings one to the Asturias Redoubt, which was formerly a Spanish advanced post against Sulu aggression, and which is now used as military barracks. The return trip may be made by Calle Scott. This road reaches the walled city between the public school building and grounds on the left and the barrio of San Raymundo on the right. The walled city is reentered by the Main Gate, which for nearly three decades was the only means of egress from the walled town.

Automobile trips may be arranged to other parts of the island, over the excellent roads which are rapidly being constructed. The principal points of interest accessible by automobile are Parang, a thriving and typical Sulu coast town on the S.W. coast of Jolo, and Maimbung, another town directly S. of Jolo, which, since the Spanish occupation in 1876, has been the official residence of the Sultan of Sulu.

If one is able to take the southern trip out of Jolo on one of the coast steamers through the Siasi and the Tawi-Tawi Archipelago, he will see some extraordinarily beautiful marine views of volcanic

MANDAYA, ARMED WITH SPEAR AND SHIELD, MORO PROVINCE.

and coral islands, covered with luxuriant vegetation in the bluest of tropical seas.

Cotabato Province. Cotabato Province has an area of 12,000 sq. m. and is very sparsely inhabited. The province embraces the rich basin of the Rio Grande de Mindanao or Cotabato River, the largest river in Mindanao Island. The river often overflows its banks and fertilizes the lands along its course. The region produces a superior kind of abacá, tobacco, sugar, cacao, and coffee. The work of exploitation, however, is no more than begun. Several interisland boats plying out of Manila touch at Cotabato town, the capital of the province of the same name, which may also be reached by boats from Zamboanga. The town is situated about 4 m. up the great Cotabato River and thus commands the entrance to one of the largest and richest valleys in the Philippine Islands. The word 'Cotabato' itself means 'stone fort,' the fort in question having been constructed by the Moros, before the Spanish occupation, on the lofty hill just behind the town. This eminence is now known as Constabulary Hill, being occupied by the Constabulary headquarters. From its summit a splendid view of the fertile Cotabato valley may be obtained.

A voyage up the river from Cotabato, which may be made only by small river boats, leads through low-lying alluvial plains splendidly adapted to rice culture, which are sparsely settled by Mohammedan Filipinos, known as Magindanaus; while in the vicinity of Pikit are several extensive colonies of immigrant Christian Filipinos, who devote special attention to the raising of rice. The *raison d'être* of these colonies is the desire to increase the rice production of the Philippines, and to equalize the distribution of the population.

Davao Province. The capital of this province is the town of the same name, situated in the Gulf of Davao, and the centre of the American Colony of hemp planters of that district, and there the traveller will see something of the Bagobos, perhaps the most picturesque of the Pagan tribes of the Philippines. Their jackets or tunics of bead and shell work are marvellously elaborate and frequently of great beauty. Davao is ordinarily reached only by interisland steamers plying from Manila, which, however, pass through Zamboanga. From the bay and the town may be obtained a splendid view of Mt. Apo, nearly 10,000 ft. high, the highest mountain in the Philippines. It is an active volcano, and on a clear morning a thin ribbon of smoke may be seen streaming upward from its yellow, sulphur-coated peaks.

Possibly the volcanic character of this portion of Davao Province may account for its extraordinary fertility. Here, the Manila hemp, locally known as *abacá*, reaches its maximum development. Coconuts also thrive greatly, while from the sites of ancient forests on the slopes of the mountains copal-gum is mined. Steamers which touch at Davao frequently also stop at various of the larger plantations on the Gulf, for the sake of loading and discharging cargo, and here the tourist may be able to visit some of the abacá and coconut plantations.

Lanao Province. Lanao Province is usually reached by interisland steamers which stop at Iligan or Overton, two towns close together on the N. coast of Mindanao. Dansalan, the capital, is reached by an automobile road which ascends, now rapidly, now gradually, through beautiful scenery, some 30 km. to the N. shore of Lake Lanao. Densalan is beautifully situated on the sloping hills which surround the lake, the latter occupying what is considered to be an ancient crater. A trip around the lake may be made on one of the launches which ply there, and the Moro settlements with their ever-present mosques on the lake shore are very interesting. The mosques can always be recognized by their double roofs. Someday, when its agricultural resources are developed, Lanao Province will be a granary of the Islands.

Lake Lanao. This lake is on a high plateau, 700 metres above sea-level. The region is overgrown with grasses and has a very bracing climate. Here is found a kind of fruit similar to the famous *durian* of the Tropics, which does not grow in any of the islands N. of Mindanao. Here also grow coffee and wild rubber-trees. This plateau and the surrounding regions are inhabited by Moros, many

of whom, notwithstanding the various measures adopted by the American Government for their enlightenment, have not altogether given up their piratical habits. In certain places it is not quite safe for a visitor to venture without an armed escort. However, a trip across the island from Iligan on the N. coast to Malabang in the S., via Lake Lanao, is worth trying on account of the beautiful scenery and the chance of seeing certain curious customs of the savage inhabitants.

Iligan to Malabang. From Iligan to Lake Lanao by automobile, and by boat across the lake to Lumbatan (60 km. from Iligan). After Lumbatan, Camp Vicars and Mataling Falls (40 ft.) will be passed in succession and Malabang finally reached. There is no rest-house anywhere along the route, and the best thing the traveller can do is to secure lodging at a military post. Excepting automobiles, which are available on the first part of the journey, army vehicles are alone available, that is, if the traveller is able to secure the use of any of them from the military authorities. With the use of an automobile and of these vehicles the whole journey may be accomplished in two days. The traveller should be accompanied by an armed escort. There are two beautiful waterfalls on the way; one of them (Mataling Falls) has already been mentioned, and the other, Maria Christina Falls, at Reina Christina, a place somewhat out of the way, is 191 ft. in height. The best place to stop overnight on the way is Camp Keithly.

Bukidnon Province. Bukidnon Province has only a small coast-line. It is usually reached through Cagayan, Misamis Province, on the north coast. Bukidnon Province is rolling tableland, especially adapted to cattle-raising.

Agusan Province. Butuan, the capital of Agusan Province, is situated near the mouth of the Agusan River and is reached by small boats plying from Zamboanga and Cebu. It commands the approach to the large and fertile Agusan River valley, which is rapidly being settled by pagans coming down from the hills and by Christian Filipino immigrants from the northern provinces. It is destined to be one of the richest provinces of Mindanao.

Surigao and Misamis Provinces. As already stated, these two provinces in the N.E. parts of Mindanao do not administratively come under the Department of Mindanao and Sulu.

Surigao is the province at the extreme N.E. of Mindanao. The town of Surigao on the N.E. coast is the capital of the province. It has a cable office and is connected by a bimonthly steamship service with Manila. The province is mainly covered by virgin forests, while the narrow coastal plains and the valleys between the mountains make fine agricultural lands. There are no good roads, and it is said that a trip through the province from N. to S. takes one month. The boats from Cebu call at ports on the E. coast between March and September, which is the dry season. Lake Mainit (15 m. by 10 m.) is a fine sheet of water lying between Placer and Butuan. The inhabitants are mostly Visayans, who make up ¾ of the population, the rest being Manobos and Mamanuas. There are a number of Chinese and some Europeans. The province is chiefly known on account of its gold-mines, which exist at Surigao, Placer, Tandag, Lianga, and Hinatuan. The Cansuran Mining Company's plant is at a place 10 m. from Surigao. There are also found coal, copper, silver, and mercury. Agricultural products: rice, corn, abacá, and coconuts.

Misamis Province lies to the W. of Surigao and on the N. coast of the island. The temperature is not unbearably hot. There are nights when one is glad of a blanket over one. The inhabitants are mostly Visayans, with a small number of Bukidnons (or Montescos) and Moros. Cagayan, the capital of the province, lies on the coast, facing Iligan Bay and Camiguin Island to the N. There is a first-class road from Cagayan to Tagoloan in the E. and a second-class road of 20 km. to El Salvador in the W. A fairly good trail leads further W. to Iligan. A steamer line connects Cagayan and Mambajao, a port on Camiguin Is., with Cebu. Agricultural products: abacá, rice, copra, corn, sugar-cane, and tobacco. There are scarcely any minerals found in this province. Fishing forms the occupation of a part of the population of the province.

Southern Façade of Central Portico, Angkor-Vat.

PART II. FRENCH INDO-CHINA.

INTRODUCTION.

Chapter I. Preliminary Information.

I. Steamer Connections with Foreign Countries. The most important steamer line which connects French Indo-China with foreign countries is that between Marseilles and Yokohama, run by the Messageries Maritimes Co.; the steamers of this line call at Saigon both on their outward and homeward voyages. There is also a local line between Singapore and Saigon, run by the same company, and one between Bangkok and Saigon, run by P. Roque Co., while between Hongkong and Hai-phong, the Ōsaka Shōsen Kaisha, the Compagnie de Navigation Tonkinoise, and the China Navigation Co. maintain lines (see Introductory Remarks).

II. Passports and Customs. Although no passport is required in ordinary times for European travellers, it is well that those travelling through the interior of French Indo-China should be provided with one, as in certain cases personal identification may become necessary. On the other hand it should be remembered that in time of war, as at present (1917), the French authorities are exceedingly strict, so that even European travellers should be provided, not only with an ordinary passport, but with one containing a portrait of its bearer. If they are taking a foreign, non-European, servant, it is absolutely necessary that the servant should have a regular passport. Those intending to visit Yun-nan, a province in S.W. China, should before starting obtain a permit from the French authorities (*fee*, 4 frs.), and if they intend to take fire-arms with them, another permit for the same should be obtained (*fee*, 15 frs.).

The Customs duties of French Indo-China are of three kinds—import duty, export duty, and transit duty. The tariff varies with the countries dealt with; it is either conventional, statutory, or special, but in all cases the rates are charged by weight. A special tariff arrangement exists between this country and China, by which the Chinese residing there are favoured in importing part of their daily necessaries from home.

III. Climate and Time of Visit. The climate of Indo-China is intertropical and very hot throughout the year; in the rainy season even more so than in the dry season. However, as the country extends for over 1,000 miles from N. to S., covering 15 degrees of latitude, there is a slight difference between Tongking or Annam in the N. and Cochin-China or Cambodia in the S. In either of the latter countries, which are very near the equator, there is indeed scarcely any perceptible change of temperature throughout the year, but in the N., either in Tongking or Annam, while the summer temperature is almost as high as in the S., the winter is considerably cooler. Thus, comparing the temperature of Saigon (Cochin-China) with

that of Hanoi (Tongking), we see that while the average temperatures of both are the same, viz. 30°C. (86° Fahr.), the winter temperatures stand contrasted as follows: Saigon, 25°C. (77° Fahr.) and Hanoi, 16°C. (61° Fahr.).

In Indo-China the year is divided into the wet and dry seasons, the former period comprising one-half of the year betweeen Apr. (or May) and Oct. (or Nov.), and the latter period between Oct. (or Nov.) and Apr. (or May). During the wet season the prevailing winds (monsoons) blow either from the S.W. to the N.E., across Cambodia, Cochin-China, and Laos, or from the S. E. to the N.W., in particular over Annam and Tongking; these winds, coming saturated with moisture from the southern seas, give rise to the wet season. During the rest of the year, however, the N.E. winds prevail, which, carrying but little moisture, cause the dry season.

From the foregoing observations it will at once be seen that the climate of Indo-China is quite unhealthy, more particularly in the delta regions at the mouths of large rivers, or in the low plains where lakes and marshes are found in abundance. Among the natives an epidemic fever, called the flood fever (fièvre paludéenne), is widely prevalent, and European residents are apt to suffer from diseases of the liver and from dysentery. Moreover, cases of bubonic plague and cholera are of frequent occurrence. Of the two seasons, the dry is the healthier period of the year and the best time in which to visit Indo-China.

IV. Itinerary Plans. From the tourist point of view, French Indo-China contains comparatively few places of interest, and these are mostly confined to regions along the lines of railway.

(a) **Itinerary Plans with Hanoi as the Centre:—**

Plan No. 1. Trip to Dô-son and Hongay, via Hai-phong (7 days):—

1st day,—Hanoi to Hai-phong by rail;
2nd day,—By automobile to Dô-son, a sea-bathing resort;
3rd day,—From Dô-son to Hai-phong;
4th day,—From Hai-phong to Hongay, by steamer;
5th day,—Visit to Baie d'Along;
6th day,—Visit to the Hongay coal-mine;
7th day,—Back to Hanoi, via Hai-phong.

Plan No. 2. Trip from Hanoi to Lang-son, via Phu-lang-thuong (4 days):—

1st day,—Hanoi to Phu-lang-thuong, by rail;
2nd day,—Phu-lang-thuong to Lang-son, by rail;
3rd day,—Lang-son to Nam-quan and back, by rail;
4th day,—Lang-son to Hanoi.

Plan No. 3. Trip from Hanoi to Yun-nan, via Lao-kay (10 days):—

1st day,—By a late train to Vinh-yên and there stop overnight;
2nd day,—Visit to Cascade d'Argent (a health resort for Europeans) and back to Vinh-yên, by rikisha or horse;
3rd day,—Vinh-yên to Lao-kay, by rail;
4th day,—Sight-seeing in Lao-kay and Ho-kéou;
5th day,—Lao-kay to A-mi-tchéou, by rail;
6th day,—A-mi-tchéou to Yun-nan-fu, by rail;

7th day,—Sight-seeing in Yun-nan-fu and environs;
8th, 9th, and 10th days,—Yun-nan-fu to Hanoi.

Plan No. 4. Trip from Hanoi to Vinh, via Nam-dinh (4 days):—

1st day,—Hanoi to Nam-dinh, by rail;
2nd day,—Nam-dinh to Vinh, by rail;
3rd day,—Vinh to Thanh-hoa, by rail;
4th day,—Thanh-hoa to Hanoi.

(b) Itinerary Plan with Tourane as the Centre:—

Plan No. 5. Trip from Tourane to Hué (4 days):—

1st day,—Tourane to Hué, by rail;
2nd and 3rd days,—Sight-seeing in Hué (City, Royal Palaces and Tombs, etc.);
4th day,—Hué to Tourane.

(c) Itinerary Plan with Saigon as the Centre:—

Plan No. 6. Trip to Nha-trang, via Phan-rang (15 days):—

1st day,—Saigon to Bien-hoa, by rail;
2nd day,—Bien-hoa to Cap St. Jacques (a sea-bathing resort), by automobile;
3rd day,—Stay in Cap St. Jacques;
4th day,—From Cap St. Jacques back to Bien-hoa;
5th day,—Bien-hoa to Malam by rail; from Malam to Djiring, by automobile; let the trip be so timed that this day be Saturday;
6th day,—Djiring to Dalat, a health resort, by automobile;
7th, 8th, 9th, and 10th days at Dalat;
11th day (Friday),—Dalat to Phan-rang, partly by rail and partly by automobile;
12th day,—Phan-rang to Nha-trang by rail;
13th day,—Sight-seeing at Nha-trang;
14th and 15th days,—Back to Saigon.

Plan No. 7. Trip from Saigon to Angkor, via Phnom-penh:—

1st day (Friday),—Leave Saigon, by steamer;
2nd day,—Early morning, arrive at Phnom-penh and sight-seeing the rest of the day;
3rd day,—Leave Phnom-penh, by steamer;
4th day,—Morning, arrive at Angkor; the rest of the day and the 5th day,—sight-seeing at Angkor (famous temple-remains);
6th day,—Leave Angkor (mouth of the Siem-reap), by steamer;
7th day,—Morning, change steamer at Phnom-penh;
8th day,—Morning, arrive at Saigon.

V. Hotels and Restaurants. In all the important cities of Indo-China, such as Saigon, Hanoi, and Hai-phong, there are good, comfortable hotels, all with up-to-date modern equipments. Even in lesser towns, tourists will find hotels, where they can be accommodated with a fair degree of comfort. But once venture far into the interior in the course of travelling or in pursuit of wild game, and it is absolutely necessary to be provided with canned food and bedding, though even in far-off places there are generally *bungalows* (no bedding supplied), where strangers may find shelter overnight. Where no bungalow exists, local officials will generally be kind enough to secure for the traveller some kind of lodging. Hotels of Indo-China charge, under the American plan, from 6 to 8 piastres per diem.

VI. Money, Weights, and Measures; Travelling Expenses. The unit of currency in Indo-China is the piastre, popularly called the dollar, which consists of 100 cents.

The silver coins are of the denominations 1 piastre, 50, 20, and 10 cents. There is, besides, a one-cent bronze piece. Of paper money, there are the denominations 1, 5, 20, and 100 piastres, all being notes issued by the Banque de l' Indo-Chine. Among the natives there circulate small, flat, bronze cash, with a square hole in

the middle, worth about the 375th part of a piastre. There is a constant change in the exchange value of the piastre, fluctuating as a rule between 2.20 and 2.60 francs.

The weights and measures in general use follow the French system, the old local standards being gradually superseded.

As in other countries, no fixed standard can be laid down as to the expenses of travelling, for much depends on the state of the traveller's purse. But for ordinary tourists, who do not care to spend any more than necessary, something like 17 piastres (on an average) a day would cover food, lodging, carriage charges, railway and other travelling expenses.

VII. Language and Guides. The prevailing language of French Indo-China is the Annamese, which is regarded, on account of difficulties in pronunciation and accent, as one of the most difficult

ELEPHANTS PAYING RESPECT BEFORE THE PALACE.

languages to learn. In large cities, French is generally spoken among European residents, and there are increasingly large numbers of natives who speak it. The French authorities are making an attempt to introduce, and with considerable success, a method of transliterating Annamese into Roman letters, and already the transliterated Annamese is taught in the common schools. As a result of this policy, the old Chinese literature is becoming neglected.

There are no professional 'guides.' Coolies at the wharf or at the railway stations of large cities generally know some French, and these may be hired as guides for sight-seeing for 30 cents per ½ day (4 hrs.) or 50 cents per day (8 hrs.). Otherwise at Hanoi and Saigon there are tourist bureaux, where travellers may obtain all necessary information regarding the country. The office in Hanoi

is known as Syndicat d' Initiative du Nord-Indochinois, and that at Saigon as Syndicat d' Initiative du Sud-Indochinois. There is a similar office at Phnom-penh, which is known as the Société d' Angkor.

VIII. Public Holidays and Festivals. New Year's Day, Monday after Easter (lundi du Pâques), Ascension Day, Monday after Whitsunday (lundi de la Pentecôte), July 14th, Assumption Day, All Saints' Day (Toussaint), and Christmas (Noël). Travellers should remember that, the climate being severely hot here, it is customary for shops, banks, and business firms to close their offices from 11 a.m. to 3 p.m. on ordinary days.

Chapter II. General Remarks on French Indo-China.

I. Situation and Area. French Indo-China forms the E. portion of the peninsula of Indo-China, including the protectorates of Annam, Tongking, and Cambodia, the colony of Cochin-China, and part of Laos. It lies between 8°30′ and 23°25′ N. lat. and 100° and 109° E. long. It is bounded on the N. by the Yun-nan and Kwang-se provinces of China, on the E. and S.E. by the Gulf of Tongking and the China Sea, on the W. by Siam and the Gulf of Siam, and on the N.W. by Burma. The area of the country is about 700,000 sq. km., of which Tongking contains 105,000 sq. km., Annam 150,000 sq. km., Laos 214,000 sq. km., Cambodia 175,000 sq. km., and Cochin-China 60,000 sq. km.

II. Topographical Sketch. Huge mountain areas and extensive plains make up the topography of French Indo-China. The mountain systems begin in the N., taking up the larger part of Tongking and the N. part of Laos, and these extend either N.W. to S.E. or N.E. to S.W., giving rise to high mountainous plateaux, like Huapanh and Tranninh. The mountain systems also give rise to narrow, deep valleys, as seen along a large part of the course of the Red River (Fleuve Rouge) and the Mekong and its tributaries. The mountain ranges and the general configuration of the land rise higher as we go W., or N.W., where peaks of 2,000 to 3,000 metres are no rare feature, but they slope down towards the seacoast in the E. On the delta plains drained by the Thai-binh and the Red River, the banks are so low that the rivers frequently overflow them depositing fertile silt all over the plains. Further S., the mountains and high plateaux of Haut-Laos press on far towards the coast, while in S. Annam there is left but a narrow strip of low land along the shore of the China Sea. In the W., however, the same mountain ranges slope down gradually towards the Mekong River, leaving wide, open plains between the river and the mountains. On these plains the river often overflows its banks, as in the case of the plains of Tongking. From here on through Cambodia and Cochin-China to the sea, where it empties itself by several mouths, the river traverses one immense delta plain largely created by silt deposits from its own waters.

The seacoast of French Indo-China, which stretches from N. to S. in an S-shaped line, is 2,500 km. in length. Mostly throughout this coast-line, except at the delta plains of Tongking and Cochin-China, high cliffs fringe the shore, but at the mouths of large rivers the lands are so even and level that no shelter is found for ships, the latter being obliged to proceed up the river mouth in order to find an anchoring place, for example, Hai-phong and Saigon, the latter being 65 km. inland and one of the finest natural harbours in the Far East.

III. Flora and Fauna. As French Indo-China has a warm, moist climate, the land is favoured by luxuriant vegetation. In the mountain districts, a large part of their area is under forests, viz. N. parts of Tongking, Laos, Annam, and N.E. parts of Cochin-China. The jungles of the low-lands, with their thick growth of brushwood, are impenetrable and unexploitable, but the forests which are higher up contain an inexhaustible supply of fine timber and also afford access to wood-cutters. Of the timber trees, the more important kinds are the teak, *tau*, *lim*, *sen*, *tram*, latania (latanier), tamarind (tamarnier), and ebony (ébénier), besides many kinds of bamboos. Among fruit trees may be mentioned mangostine (mangoustanier), mango-tree (manguier), banana-tree (bananier).

Indo-China also has a rich fauna. There abound the tiger, leopard, bear, rhinoceros, wild boar, buffalo, fox, monkey, badger, and deer; and of birds, the peacock, falcon, eagle, and partridge. In a word, the country offers ideal facilities for game-shooting.

IV. Inhabitants. The population of French Indo-China consists of Annamese, Cambodians, Tais, Chams, and aborigines (Mans, Méos, Lolo, etc.). Of these the Annamese are the most numerous, aggregating as many as 15,000,000; the Cambodians come next, with 1,300,000, followed by the Tais with 1,110,000, and the Chams 100,000; the aborigines are estimated to number 500,000. Besides these, there are about 300,000 Chinese and other Asiatics, 15,000 Europeans, and 40,000 Eurasians. Taken altogether the inhabitants of French Indo-China number about 18,370,000, which gives an average of 24 people per kilometre. Further, as to their distribution, the Annamese live mostly in Tongking, Annam, and Cochin-China, the Cambodians in Cambodia, the Tais in Laos, the Chams in Cochin-China and a part of Cambodia; the aborigines live scattered among the mountains of the interior.

Among these native races, the Annamese are more civilized than any others. Through the experience of many generations they make a good agricultural population, but show little aptitude for trade. Throughout Indo-China trade is in the hands of the Chinese. The Tais live apparently by preference in mountain districts, where they keep cattle and make hunting their chief occupation; they are far below the Annamese in the scale of civilization. The Cambodians engage in forestry, agriculture, fishery, and hunting.

V. Political Organization. French Indo-China, which comprises the colony of Cochin-China, the protectorates of Annam, Cambodia,

Tongking, and Laos, is under a governor-general who is the sole intermediary between this country and the home government, whose powers with few limitations are delegated to him. He is the supreme administrative and military authority and is assisted by the superior council (conseil supérieur), which is composed of the Governor-General (President), the general commanding the troops, the rear-admiral commanding the naval squadron of the Far East, the Lieutenant-Governor of Cochin-China, the resident superiors of Tongking, Annam, Cambodia, and Laos; the directors-general of finance and other departments of the administration, and many others, including four eminent natives.

The council meets twice a year, once in Hanoi and once in Saigon, in order to enact laws and vote the general and local budgets. The local administration is carried on by the Lieutenant-Governor in Cochin-China, while in the protectorates it is advised and practically directed by resident-superiors. These protectorates, Tongking, Annam, Laos, and Cambodia, are ruled by kings, who still maintain practically intact the laws and administrative machinery of the time when they were independent of the French authority. In practice, however, the native rulers dare not ignore the smallest suggestions of the resident-superiors.

Justice is administered by native tribunals (found throughout the country); from these there is an appeal to the courts at Saigon and Hanoi. In these courts of appeal, in matters concerning the natives, European judges are assisted by Annamite mandarins. Thus in principle the country is subject to French justice. In 1905, punishment by torture (the cangue, etc.) was abolished.

Early in its history, the country now known as French Indo-China came under the sway of the Chams and the Khmers,—tribes which, bringing over Hindu culture, subjugated the land, driving the aborigines before them into the mountainous regions. Later another people—the Annamites—came over from the highlands of Thibet, establishing their authority over the inhabitants of the country who had preceded them in a similar course of conquest. In the early part of the 19th century, a great hero arose among the Annamites in the person of Gia-long, who united under one rule the three countries of Tongking, Annam, and Cochin-China, under the name of the kingdom of Annam. He established his seat of government at Hué. Previous to this, however, the Tais, who also trace their original home to Thibet, established themselves in Laos, and, as neighbours to the Annamites, carried on constant feuds with the latter. King Gia-long of Annam, finding himself in difficulties in the course of his war with the Tais, sought the assistance of the French, who had already begun to visit these shores. This led to the establishment of French authority in Indo-China. The successors of Gia-long showed themselves ungrateful to the French, and, war ensuing, Tourane was seized by the French (1855), and on the conclusion of peace the region round about Saigon passed into French possession. This was the beginning of the French colony of Cochin-China, and by 1885 the whole country now known as French Indo-China, from one end of it to the other, became known as a French possession.

VI. Communications:—*Railways.* The French rulers of Indo-China have shown themselves quite enterprising in the matter of railway building. Great credit is due in particular to the Governor-General, Paul Doumer, who in 1896 initiated a comprehensive plan of railway building, the cost being defrayed by 200,000,000 francs

obtained by public loan. At present the government-owned lines, which are all of 1 metre-gauge, are as follows: Hanoi–Vinh–Benthuy Line (326 km.); Hanoi–Lang-son–Nam-quan Line (167 km.); Tourane–Hué–Dong-ha Line (175 km.); Saigon–Nha-trang Line (410 km.); altogether 1,078 km. To these must be added the Haiphong-Lao-kay–Yun-nan Line (863 km.), which is carried on by the Yun-nan Tongking Railway Company (Cie Française des Chemins de fer de l' Indo-Chine et du Yun-nan).

The line between Hai-phong and Lao-kay was originally commenced by the Government of French Indo-China, but it was transferred in 1905 to the above-named company under an agreement that the company was to build the Yun-nan Line, while the Hai-phong–Hanoi–Lao-kay Line was transferred to the company for a period of 75 years without compensation, and that the company and the government should divide equally all the profits of the entire Line. There is to be added further the Saigon–Mytho Line (71 km.), which will bring the total railway mileage of French Indo-China up to 2,012 km.

Besides the steam railways above mentioned, an electric tramway runs in the city of Hanoi, and there are three short lines of steam-trams,—one near Hai-duong (Cam-giang–Phu-ninh-giang, 43 km.), and two in the environs of Saigon (Saigon–Cholon, 6 km. and Saigon–Hocmon, 20 km.). Of the lines in contemplation may be mentioned the Saigon–Phnom-penh Line, to be brought into connection with a Siamese railway starting from Bangkok, the Nha-trang–Tourane Line, and the Dong-ha–Ben-thuy Line; all these when completed will bring Hanoi into railway communication with the capital of Siam.

The railway fares are established on the basis of a per km. rate, viz. 1st cl. $0.07, 2nd cl. $0.035, and 3rd cl. $0.02; return tickets are sold at a reduction of 25% on the regular rate, these tickets being valid for 3 days in the case of those for less than 100 km., with an increase of 1 day for each additional 100 km.

Coastwise Navigation. The more important of the coastwise steamship lines are those run by the M. M. Co. and M. F. Co. between the ports on the coasts of French Indo-China, viz., the Saigon–Hai-phong Line (weekly service), the Hai-phong–Muingoc Line (thrice weekly, see P. 133), and the Saigon–Cap St. Jacques (daily, see P. 181).

Riverine Steamship Lines. In connection with the two large streams of the Red River in the N. and the Mekong in the S., and their numerous tributaries, which are navigable for steamers or steam-launches, there exist quite a number of steamship lines, offering considerable facilities for travel inland. The only drawback in the case of many of these lines is the fact that in the dry season when the waters are low the service has to be temporarily stopped, as well as the fact that the services are so conducted that the times for sailing and arrival cannot be depended on. It is always advis-

able, whenever possible, to choose the railway in preference to river steamers. The following are some of the more important lines:

(1) Lines with Hai-phong as the centre: Hai-phong—Dap-cau Line (twice weekly): Hai-phong—Phu-lang-thuong Line (twice weekly, see P. 133); Hai-phong—Hanoi Line (daily); Hai-phong—Hanoi—Lao-kay Line (irregular).

(2) Lines with Hanoi as the centre: Hanoi—Viétri—Tuyên-quang Line (twice weekly); Hanoi—Cho-bo (thrice monthly).

(3) Lines with Viétri as the centre: Viétri—Tuyên-quang (thrice weekly); Viétri-Cho-bo (twice weekly); Viétri—Son-tay (five times weekly).

(4) Lines with Saigon as the centre; Saigon—Tay-ninh (weekly); Saigon—Chaudoc—Dai-ngay (thrice weekly, see P. 181); Saigon—Phnom-penh (thrice weekly,—in the high water season calling once a week at Battambang).

Other Means of Conveyance—Rikishas afford a universal and convenient means of conveyance throughout French Indo-China; *fare*, 25 cents per hour, 20 cents for each additional hour. Carriages are found in large towns; *fare* $2 per hour and $1 per each additional hour.

Automobiles may be hired in Hanoi, Hai-phong, Saigon, etc.; $5 per hour, $30 per day. Regular automobile services are maintained as follows: Hai-phong–Dô-son (see P. 134); Dông-anh–Backan (see P. 150); Malam-Dalat (Lang-bian), see P. 184; Saigon–Tay-ninh (see P. 189); Bien-hoa–Cap St. Jacques (see P. 183).

Horses, chairs, and palanquins are available on mountain roads in the interior.

VII. Post, Telegraph, and Telephone. There are three kinds of post-offices in French Indo-China: (a) All-day Offices (Bureaux à Service Permanent) at Saigon, Phnom-penh, Cap St. Jacques, Hanoi, Hai-phong, Hué, and Tourane, where on ordinary days the postal business is transacted all day (without the usual rest-hours), i.e. between 7 a.m. and 6 p.m., and the telegraph business until 10 p.m.; and on Sundays and holidays (see P. 121) the offices are closed, except for the poste restante and the telegraph business which are transacted as on ordinary days. (b) Principal Offices (Bureaux Principaux), where on ordinary days the postal business is transacted between 7 and 10.30 a.m. and between 3 and 5.30 p.m., and the telegraph business between 7 and 10.30 a.m., between 3 and 5.30 p.m., and between 8 and 10 p.m.; and on Sundays and holidays the offices are closed except for poste restante and telegraph business, the latter being handled as on ordinary days. (c) Secondary Offices (Bureaux Secondaires), where on ordinary days the postal and telegraph business is transacted between 7 and 10.30 a.m. and between 3 and 5.30 p.m.; on Sundays and holidays the offices are closed, except during the forenoon, i.e. between 7 and 11 a.m., for telegraph business.

Postal Rates, excepting the international postal union rates (which are omitted in the following table):

Letters (Limit of weight—1 kg.; Limit of dimensions—45 cm. in length, width, and depth; or, if done up in rolls, 75 cm. in length and 15 cm. in diameter). Rates: Up to 20 grs., 10 c., 20 to 50 grs., 15 c., beyond 50 grs. and per each 50 grs., 5 c.

Post-cards (Limit of dimensions—Maximum size 14 by 9 c., Minimum size 10 by 7 cm). Rates: Single 10 c., Return card 20 c.

Samples (Limit of weight—500 grs.; Limit of dimensions—30 cm. in each direction). Rates: Per 50 grs., 5 c.

N.B.—There is a slight difference in the limit of dimensions between samples sent from one place to another in French Indo-China and those sent from French Indo-China to other French colonies.

Printed matter (Limit of weight—3 kg.: Limit of dimensions—The limit of dimensions in the case of printed matter is the same as in the case of letters). Rates: Up to 15 grs., 2 c., Up to 50 gr., 3 c., Up to 100 grs., 5 c.

N.B.—General printed matter done up in a wrapper, open at both ends. Rates: Up to 100 grs., 5 c., Beyond 100 grs. and per each 100 grs. or fraction thereof, 5 c.

N.B.—Letters in open envelopes and printed matters of post-card size. Rates: Up to 100 grs., 5 c., Beyond 100 grs. and per each 100 grs. or fraction thereof, 5 c.

N.B.—Letter of notification or invitation.

Rates: Up to 5 grs., 1 c., Beyond 5 grs. the rates for general printed matter apply.

Commercial papers (Limit of weight—1 kg.: Limit of dimensions—The limit of dimensions in the case of commercial papers is the same as in the case of letters. Rates: Up to 20 grs., 5 c., Beyond 20 grs. the rates for letters apply.

Newspapers and Periodicals. Rates: Up to 50 grs., 2 c., Beyond 50 grs. and per each additional 25 grs. or fraction thereof, 1 c.

N.B.—50% reduction on the rates just mentioned, in the case of newspapers and periodicals published in French Indo-China and sent from one place to another in any of Tongking, Annam, Cambodia, Laos, and Cochin-China.

Registration. Rates: Letters and post-cards 25 c., Other mail matter 10 c.

N.B.—Registered mail matter when lost will be indemnified at the rate of 25 francs in the case of a letter and 10 francs in that of any other mail matter.

Delivery certificate. Rates: Per each item of mail matter 10 c.

Declaration of value (Limit of weight—No limit of weight in the case of mail matter in the form of a box). Rates: 1. Letters, besides the registration fee of 25 c., 15 c. per each 15 grs., and 10 c. per each 500 francs of money. 2. Boxes, besides the registration fee of 25 c., 5 c. per each 50 grs , and 10 c. per each 500 francs of money.

N.B.—Maximum amount of money which may be sent by value declared letter or box, 10,000 francs; indemnity to be paid not beyond the value declared.

Cash on delivery. Rates: Per each case of cash on delivery, a fee of 10 c., besides the usual fee for postal money order.

Fee for domestic money-order: Up to 20 piastres, 5 centimes per each 5 piastres; beyond 20 piastres and up to 200 piastres, 50 centimes (or 5 per mile); beyond 200 piastres, 25 centimes (or 2½ per mile).

Fee for foreign money-order (for countries other than those mentioned in the table below, money orders must be reissued in one of the countries therein mentioned).

Country of Destination	Maximum Amount	Rate	Unit of Currency
Hongkong	1,000 francs	1%	Franc and centime
Dutch E. Indies ...	480 florins	25 cents per 50 florins or fraction thereof	Florin and cent
Japan	400 yen	25 cents per 50 yen or fraction thereof	Yen and sen
Siam	1,000 francs	1%	Franc and centime
Straits Settlements (Singapore, Penang, Malacca)	340 dollars	1%	Dollar and cent

Domestic and Foreign Telegraph Fees:

Country or Place of Destination	Telegraph Line	Rates per Word	
		From Cochin-China, Cambodia, or Laos	From Annam or Tongking
Cochin-China, Cambodia & Laos	By an overland line	$0.02	$0.02
	,, a submarine cable	0.75 fr.	0.75 fr.
Annam	By an overland line	$0.02	$0.02
Tongking	,, a submarine cable	0.75 ,,	0.75 ,,
Europe	By Cap-Madras-Suez	3.80 frs.	4.40 frs.
	,, Cap-Hongkong-Vladivostok	5.80 ,,	6.40 ,,
	,, Tourane-Amoy	5.80 ,,	6.15 ,,
European Russia	By Cap-Madras-Suez	4.40 ,,	5.00 ,,
	,, Cap-Hongkong-Vladivostok	6.40 ,,	7.00 ,,
New York	By Cap-Singapore-Bombay ...	5.05 ,,	5.65 ,,
Peking	By Cap-Hongkong	2.40 ,,	3.00 ,,
Shanghai	By Cap-Hongkong	1.90 ,,	2.50 ,,
	,, Tourane-Amoy	,, ,,	2.55 ,,
Penang	By Phnom-penh-Bangkok ...	1.41 ,,	2.01 ,,
Singapore	By Cap-Singapore	1.10 ,,	1.70 ,,
	,, Phnom-penh-Bangkok ...	1.18 ,,	1.78 ,,
Siam	By Tongking-Phnom-penh ...	1.18 ,,	1.35 ,,
	,, Cap-Singapore-Moulmein ...	2.72 ,,	3.22 ,,
Hongkong	By Cap-Hongkong	1.40 ,,	2.00 ,,
	,, Tourane-Amoy	,, ,,	1.55 ,,
Manila	By Cap-Hongkong	2.15 ,,	2.75 ,,
	,, Tourane-Amoy	,, ,,	2.00 ,,
Japan	By Cap-Hongkong	3.58 ,,	4.18 ,,
	,, Tourane-Amoy	,, ,,	3.93 ,,

Telephone. There is a telephone system connecting the different parts of the city of Hanoi and that city with Hai-phong; also

A Native Wheel-Barrow, Tongking.

one connecting the different parts of the city of Saigon and that city with Cholon; fee, 20 centimes per one conversation unit.

VIII. Habits and Customs. The natives of French Indo-China, of whom by far the larger number are Annamese, have a tawny complexion, somewhat darker than the Chinese. Both sexes tie their hair up on the top of their heads and wear wide trousers, a long tunic, usually black, with narrow sleeves,—both garments as a rule are made of cotton cloth—and a dark-coloured turban, also made of cotton cloth. The majority of the people rarely wear hats or caps of any kind, but the well-to-do are seen, when out walking, wearing a large flat hat, some 2 ft. in diameter and having ribbons hanging down from the sides. Only the better classes wear sandals, the lower classes commonly go about barefooted. The commonest articles of food are rice and corn, which they cook mixed together, while they take as a relish fish, poultry, or vegetables. They have a habit of chewing betel-nuts, areca nuts, and lime, which give their teeth and gums a repulsive black colour. Their dwellings are rudely constructed; the roofs of tree-leaves or reeds are supported by four pillars of wood or of bamboo, with walls on three sides only, the front side, facing the road or street, being open (but closed by wooden shutters at night). As in Siam, the houses of the Annamese have a floor raised comparatively high above the ground. The well-to-do classes in the cities, however, live in a better style. Both men and women are mild and easy-going, even apathetic in temperament, though not without a tinge of deceitfulness and vanity. They show much respect to their parents and elders.

IX. Religion and Education. When the ancestors of the present dominant races of French Indo-China came over from Thibet, they brought with them the religion of Buddha. But after settling down, they came under the influence of Confucianism and Chinese civilization. In Hué may be seen to-day a great royal cemetery, something like those found in China, and the tombs are cared for with great reverence both by the Government and the people. Within the premises of the Palace, there is a shrine dedicated to the spirits of the royal ancestors, as well as one dedicated to Confucius himself. Ancestor worship, in fact, is a wide-spread cult with the people of this country. Of late years, however, Roman Catholicism has made considerable progress, especially among the young men.

Education in French Indo-China used to consist almost exclusively of teaching the Chinese classics. The pupils were required to commit to memory by rote difficult Chinese characters or phrases, with little understanding of the teachings of the great sage. But of late, modern schools have been introduced. Both elementary and industrial schools are found here and there, though by no means universally. In Hanoi there is a medical school and in Saigon a middle grade school for teaching liberal arts. Roman Catholic missionaries are doing much to introduce common schools throughout the country. But the large mass of the people are still in a state of dense ignorance.

X. Industries and Trade:—*Industries.* The prevailing occupation of the people of French Indo-China is agriculture, of which rice forms the chief product. The great rice-producing regions are found in the delta plains of Tongking and of Cochin-China. In Cochin-China, the area under rice amounts to 1,600,000 hectares, and in Tongking to 900,000 hectares. Moreover, it is said that in Cambodia and Laos there are extensive tracts of land which may be brought under rice-cultivation. Already the annual output of rice greatly exceeds the amount consumed in the country, so that between 800,000 and 1,000,000 tons of this commodity are annually exported, which make up in value more than one-half of the total exports of French Indo-China.

In cultivating rice, the native farmers follow in the main a method evolved through the accumulated experience of centuries. Yet the method is quite primitive. The French Government is trying to introduce scientific methods, but their progress seems to be slow. There is apparently great room for improvement in the matter of agricultural engineering in particular, such as irrigation and draining. Two crops of rice are raised annually.

Forestry is another promising industry of the country. In Tongking alone, 5,500,000 hectares, out of its total area of 11,000,000 hectares, are covered by forests. If to these forests we add those found in Laos, Annam, Cambodia, and Cochin-China, the total forest-covered area of French Indo-China must amount to something like 6,000,000 hectares, or 15,200,000 acres. The Government of French Indo-China has already established a Bureau of Forestry, with branches in all important centres, in order to look after the exploitation and preservation of forests. It is said that there are about twenty kinds of good timber trees found in these forests. But in many places difficulties of transportation almost forbid exploitation. Fishery is the occupation of a large number of the people. Notwithstanding the primitive method of fishing employed, the product is large enough to supply an important item in the list of the country's exports. The chief fishing regions are the Kam-ranh Bay and the seas in its neighbourhood, the S.E. coasts of Cochin-China, and the great lake (Grand Lac) of Cambodia. The products are dried or salted and sent abroad. One drawback with a great part of the seas of French Indo-China from the point of view of fishing is the presence in them of an immense number of reefs, which prevent the employment of nets in any form.

Stock-farming. Buffaloes, cattle, and horses are quite generally raised, in the highlands of Tongking and Annam, in the valleys along the course of the Mekong, and in parts of Cambodia. Of these, the buffalo is hardy, flourishing on coarse food, and can best endure work in wet paddy lands. Sheep and pigs are also raised. But throughout French Indo-China there are no large pastures. The Government has opened in Hanoi and a few other places experimental stock farms, where foreign breeds are brought over, with a view to the improvement of native breeds of cattle and horses.

Mining. The chief mineral product of French Indo-China is coal, which is produced or known to exist at Nong-son (see P. 172), near Tourane, in the neighbourhood of Luang-prabang (Laos), Hongay (see P. 135), and Kébao (Tongking). No progress has yet been made in its exploitation at Luang-prabang, on account of the difficulty of transportation. The kind of coal produced is mostly powder-coal, and though it makes a good fuel for smithing and some other industrial purposes, on account of its powerful heating capacity, it needs to be mixed with some imported kinds of coal and made into bricks before being used as fuel for boilers.

Copper is found in the mountains along the River Noire, especially in the regions above Vin-yên. Some of the mines are regarded as very promising, though the output is not yet by any means large. Copper is said to exist also in Laos.

Iron is found at many places in the Elephant mountains, especially in the neighbourhood of Thai-nguyên and Cao-bang (Tongking), and in the neighbourhood of Vinh and Quang-tri (Annam).

Handicrafts and Manufactures. Of the original native handicrafts, embroidery and gold and silver works are the only productions worthy of mention. But of late, under the French influence several large manufactories have sprung up. Of these the more important kinds are as follows: (1) rice-mills at Cholon and neighbourhood (see P. 190); (2) alcohol distilleries at Hanoi, Nam-dinh, Cholon, Hai-duong; (3) matting factories at Phat-diem (Tongking), Bac-lieu, Rach-gia, Tan-an (Cochin-China); (4) lumber mills at Hanoi, Viétri, Ben-thuy, Saigon, Kandal; (5) match manufactories at Hanoi and Ben-thuy; (6) briquette manufactories at Hanoi and Hai-phong; (7) zinc and tin refineries at Hai-phong; (8) brick kilns at Hanoi, Hai-phong, Nam-dinh, Saigon, Cantho; (9) lime kiln at Chaudoc; (10) cement manufactories at Hai-phong; (11) salt manufactories at Bac-lieu and Baria (Cochin-China) and on the coasts of Annam and Tongking; (12) cotton-spinning factories at Hai-phong, Hanoi, and Nam-dinh.

Trade. The chief articles of import into French Indo-China comprise condensed milk, canned food, flour, vegetables, sugar, coffee, tea, tobacco, cotton yarn, cotton cloth, wines and liquors, coal, kerosene oil, hardware, medicine, soap, pottery, glass-ware and crystals, paper, machinery, automobiles, etc. Of exports the more important are: rice, fish (dried or salted); pepper, cinnamon, vegetable oil, teak timber, cotton (raw), coal and zinc, silk (raw), cement, mattings, leathers, etc. Trade returns for 1914:

	Imports	Exports
Tongking	96,239,000 frs.	100,260,000 frs.
Annam	6,364,000 ,,	11,136,000 ,,
Cochin-China	158,998,000 ,,	219,253,000 ,,
Cambodia	4,891,000 ,,	1,686,000 ,,
Total	266,492,000 ,,	332,335,000 ,,

From these figures it will be seen that there is a large trade balance in favour of French Indo-China, amounting to 65,843,000 frs.

HAIPHONG

Scale 1 30.000

English Mile

Kilometers

REFERENCE NUMBER

1	Service des Correspondances fluviales	D2
2	Travaux Publics (Arrondissement)	
3	Hongkong Shanghai B.C. Consulats de Siam, Angleterre et Norvège	
4	Laboratoire des Travaux Publics	
5	J. de Roquet Consulat de Russie	D3
6	Ecole Municipale des Garçons	D2
7	Commissariat de Police	D2
8	Tresor et Recette Municipale	
9	Gendarmerie	
10	Tribunal	
11	Messageries Maritimes Cie	E3
12	Chambre de Commerce	
13	Hôtel du Commerce	
14	Hotel de l'Europe	D3
15	Poste, Télégraphe et Téléphone	
16	Ecole Municipale des filles	E3
17	Imprimerie d'Extrême Orient	
18	Bureaux de la Cie du Chemin de fer	
19	Société Protectrice	
20	Union Commerciale Indo-Chinoise	F2
21	Consulat de Belgique	F2

Route X. Hai-phong and Environs.

Approach to Hai-phong. Travellers coming by steamer from Hongkong will note on their approach to the Hai-phong harbour a number of small islands, known by the name of the Norway Islands From this point to Hai-phong is a distance of 51 km. (32 m.). On the largest of the Norway Islands are a lighthouse, indicating a passage to the Along Bay (Baie d'Along), a cable station, and a signal station. As the ship is about to enter the mouth of a river leading to Hai-phong, there will be seen to the left the Hon-dau rocks.

Arrival. The harbour of Hai-phong is not deep enough at low water to accommodate ships of more than 6 metres' draught, and all larger vessels have to wait off the river mouth for the full tide, which occurs here only once in twenty-four hours, not twice as everywhere else in the world. This singular phenomenon has not been fully studied, but the fact remains and causes much inconvenience to steamers engaged in stated services on these waters. For, if they fail to arrive here in good time to take advantage of a full tide, they will have to wait twenty-four hours, not twelve as elsewhere, for the next full tide. The difference of level between the full and ebb tides at Hai-phong is about 3 metres.

Passengers on landing will be required to have their luggage examined by custom-house officials, and, if they are not Europeans, to present passports.

Carriages and Automobiles: automobile, $5 per hour, $30 per day.

Rikishas are perhaps the most convenient means of conveyance; *fare*, 7 cents for a short distance, 25 cents per hour; after the 1st. hour, 20 cents per each 1 hr. or fraction thereof, $1 per ½ day, $2 per day.

Hotels: Hôtel du Commerce (Hotel, café, and restaurant; Pl. 13, E 3), Boulevard Paul-Bert; Hôtels de l' Europe et de l' Univers Réunis (Pl. 14, D 3), Boulevard Paul-Bert, and its branch at Boulevard Amiral-Beaumont; Hôtel de la Gare 46 et 48, Rue de Paris; Hôtel de France, Boulevard Amiral-Beaumont; all conducted on European plan,—room $1 3, one full meal $1.75, light breakfast, 35 cents.

General Description of the City. The city of Hai-phong lies on the Cua-cam, a tributary of the Thai-binh, 32 km. (20 m.) from its mouth, forming an important outlet for merchandise from Hanoi, Hai-duong, and Nam-dinh, as well as from the Chinese province of Yun-nan. The present city is an outgrowth of the Franco-Annamese treaty of 1874; it is governed by a municipal assembly, composed of members elected by the citizens. The city enjoys ample facilities of communication, being connected by railways and steamer service with Hanoi and all other important centres in Tongking. It is a prosperous and growing commercial town. The port, however, suffers from the presence of two shoals at the river mouth, which prevent the entering of very large vessels. The river was dredged some years ago, but it is being constantly silted up. The city stands on a plain—formerly a marsh—which has been well drained by digging numerous canals, but regions outside the city limits still remain the old marshy lands in all directions, unattrac-

tive, monotonous, and uninteresting as a landscape, enlivened only by a far-off view of mountains in the N. Of these mountains, the highest measures 1,500 metres. Hai-phong has a population of 44,670 (1913), including 1,300 French and 70 other Europeans, 8,800 Chinese, and 70 Japanese.

The city is composed of native and European quarters, the native town occupying the N. portion of the city, close to the Song Tambac, and the European quarter being located near the Canal de Ceinture, and on both sides of Boulevard Paul-Bert. This boulevard is a handsome modern street, both sides of which are lined by European buildings, including a church (Roman Catholic), the Government House, Chamber of Commerce, Law Courts, and Barracks, and presents a striking contrast to the mean and poverty-stricken appearance of the native streets. Outside the city there are a cotton-spinning factory, a cement factory, and Marty Co.'s dockyard. At one end of Boulevard Paul-Bert is a small public garden, which contains a music pavilion and a statue of Jules-Ferry, a famous French statesman whose name is closely associated with the annexation of Tongking. The sights of interest are comparatively few. From the tourist's point of view, the place is chiefly important as a starting-point for trips to the neighbourhood,—to the Along Bay (Baie d' Along), Dô-son (sea-bathing resort), etc.

Railway Station (Gare Centrale) (Pl. F 4), Rue de Paris. There is a short line of 1.4 km. to the Hai-phong dock and a landing place for goods.

Foreign Consulates: British, Siamese, and Norwegian (Pl. 3, D 2), all three in Rue Jules-Ferry (Denis Frères); Russian (Pl. 5, D 3), Boulevard Félix-Faure; Belgian (Pl. 21, F 2).

Post, Telegraph, and Telephone Office (Bureau de Poste, Télégraphe et Téléphone) (Pl. 15, D 3), Boulevard Paul-Bert; telephone connection with Hanoi, *fee*, 20 cents per 3 minutes' conversation.

Banks: Banque de l' Indo-Chine (Pl. D 3), 4, Boulevard Félix-Faure; Hongkong & Shanghai Banking Corporation (Agent, Denis Frères) (Pl. 3, D 2), Rue Jules-Ferry; Chartered Bank of India, Australia, & China (Agent Speidel et Cie.), 12, Boulevard Paul-Bert.

Government Offices, etc.: City Government (Résidence-Mairie) (Pl. E 2), Rue de la Concession; Administration Office (Direction des Services Administratifs; Pl. 22, D 2), Rue de la Concession; Army Hospital (Hôpital Militaire; Pl. D 2), Rue de l' Hôpital; Public School (École Municipale des Garçons; Pl. D 2), Boulevard Félix-Faure; Gendarmerie (Pl. 9, E 2), Place Amiral-Pottier; Police Office (Commissariat de Police; Pl. 7, E 2), Boulevard Amiral-Beaumont; Law Courts (Tribunal; Pl. 10, E 2), Rue Harmond; Chambre de Commerce (Pl. 12, E 3), Boulevard Paul-Bert; Artillery Barracks (Caserne d' Artillerie; Pl. E 3), Rue du Négrier; Prison (Prison Civile; Pl. C 4), Boulevard Bonnal; Cathédrale (Pl. D 3), Rue de la Mission.

Shops, Factories, etc.: *Book-stores:* Imprimerie d' Extrême-Orient (Pl. 17, E 3), 38, Boulevard Paul-Bert; Schneider, Boulevard Paul-Bert; *Jewellers:* Girodalle, Boulevard Paul-Bert; Gavagnach, Boulevard Courbet; E. Cormeraie, Boulevard Paul-Bert; *Shipping Companies:* Société de Transports Fluviaux du Tonkin, Rue du Commerce; A. R. Marty (Pl. B 5), Rue du Commerce; P. Roque (Pl. 5, D 3), Rue Jules-Ferry; Union Commerciale Indo-Chine, Boulevard de la République; Denis Frères, Rue Jules-Ferry; Messageries Maritimes (Pl. 11, E 3), Boulevard Paul-Bert; *Shops for Asiatic Products:* Sen Sang-cheong-ky, 37, Rue Chinoise; Jallon, Boulevard Paul-Bert; *Automobile Companies:* Société de Transports automobiles, Mancis, Boulevard Amiral-Beaumont et Boulevard Paul-Bert; La Milon et Cie, Boulevard Chavassieux.

Market: Marché (Pl. B 4), Rue de Lao-kay.

Newspapers, Clubs, and Theatres: Le Courrier d' Hai-phong (daily), Boulevard Paul-Bert; Cercle du Commerce; Vélo-sport; Société Philharmonique, Boulevard Paul-Bert; Société de Courses; Pédale Haiphonaise; Théâtre Municipal (Pl. D 4), Boulevard Amiral-Beaumont.

Communications. ***Railway;***—Hai-phong–Hanoi Line, three trains daily each way, in about 3 hrs.

Hai-phong to	Distance in km.	Fare 1st cl.	Fare 2nd cl.	Hai-phong to	Distance in km.	Fare 1st cl.	Fare 2nd cl.
Hai-duong ...	44.8	$2.25	$1.58	Gia-lam ...	96.4	$4.85	$3.40
Cam-ging ...	61.7	$3.10	$2.17	Hanoi	101.8	$5.10	$3.57

River Steamer Lines:

These steamers are apt to be quite irregular according to the height of the water, and tourists intending to take them are advised to make careful inquiries beforehand as to the actual time of departure and arrival.

Services by P. Roque, Armateur (Service fluvial subventionné du Bas-Tonkin):

(1) Hai-phong to Mui-ngoc (Mon-cay), *fare* $11.20; *fares* to different ports of call on the way,—to Quang-yên, $1.30; to Hongay (Baie d'Along), $3.60; to Port-wallut, $7.70; to Pointe-Pagode, $8.30; Steamers leave Hai-phong at noon on Mondays, Wednesdays, and Fridays and clear Mui-ngoc at 11 a.m. on Tuesdays, Thursdays, and Saturdays;

(2) Hai-phong to Phu-lang-thuong, *fare*, $6.20; *fares* to different ports of call on the way,—to Yen-léou, $1.50; to Dong-trieu, $2.10; to Sept-Pagodes $4.40; Steamers leave Hai-phong at 6 p.m. on Mondays and Thursdays and clear Phu-lang-thuong at 5.30 p.m. on Tuesdays and Fridays.

(3) Hai-phong to Dap-câu, *fare* $6.20; ports of call:—Yen-léou, Dong-trieu, Sept-Pagodes; Steamers leave Hai-phong at 6 p.m. on Wednesdays and Fridays and clear Dap-câu at 5.30 p.m. on Thursdays and Saturdays.

Services by Cie. des Messageries Fluviales du Tonkin:

(1) Hai-phong to Hanoi; ports of call:—Kien-an, Ninh-giang, Hun-yên; Steamers leave Hai-phong at 5 p.m. on Mondays and Thursdays and clear Hanoi at 5 p.m. on Wednesdays and Thursdays.

(2) Hai-phong to Lao-kay: ports of call:—Hanoi, Phu-tho, Yen-bay, Trait-hut, Bao-ha, Pho-lu. All particulars will be published five days before departure.

Steamer Lines on Neighbouring Seas. Hai-phong–Hongkong Line: by the Ōsaka Shōsen Kaisha, call at Hoi-how; (5 trips monthly), transit in 3 days; by the Compagnie de Navigation Tonkinoise, call at (irregularly) Kwanchow-wan, (3 trips in two weeks); by the China Navigation Co., call at Hai-how and Pak-hoi, (weekly); by the Indo-China S. N. Co., call at Pak-hoi and Hoi-how (weekly).

Hai-phong–Saigon Line: by the Cie. des Messageries Maritimes, call at Camranh, Tourane (weekly); transit in 3 or 4 days; connects with the M. M.'s European Line at Saigon (see P. xxiii).

Environs of Hai-phong. Dô-son (22 km. S. of Hai-phong). Regular automobile service between Hai-phong and Dô-son: Between Oct. 16 and May 15, daily,—leaving Hai-phong at 7.30 a.m. and Dô-son at 4.30 p.m.; between May 16 and Oct. 15, twice daily, —leaving Hai-phong at 7.30 a.m. and 5.30 p.m., and Dô-son at 6.30 a.m. and 4.30 p.m.; transit in 45 min.; *fares* $1.25, return ticket (good for 3 days) $2, a commutation ticket for 30 trips, $30. (There are also automobiles for hire.)

Dô-son is a well-known sea-bathing resort. The place lies on a promontory, facing the open sea. There is a fine road along the coast from Hai-phong.

Hotels: Hôtel Continental (fine view of the sea), accommodating 40 persons; room with a single bed, $1.50; with two beds, $2 and upward; breakfast, 30 cents; midday meal and supper, each $1.75; Hôtel de Plage. Hôtel de Dô-son.

Dô-son is also known as Cun-long-son or the 'Nine Dragons,' from the resemblance of its topographical features to the shape of nine recumbent dragons. One may visit the reservoir in a chair or a palanquin, which will be borne by women-coolies.

Hai-phong–Mon-cay Line of Steamers (see P. 133):

Quang-yên (15 km. from Hai-phong and 116 km. from Hanoi) is the capital of the province of the same name and contains the government buildings and schools. This part of the country is mountainous and rich in minerals, more particularly coal, iron, and copper. Agriculture is carried on, but to a limited extent. Communication with other towns is maintained mostly by steamers, there being no good overland roads.

Hongay (62 km. from Hai-phong and 136 km. from Hanoi) is the chief town of Quang-yên Province and is known on account of its coal-mine. The place was a small Annamese village till 1888, when a coal-mine was discovered and the place at once started to become a flourishing manufacturing centre. The town is a natural harbour, situated on the Along Bay (Baie d' Along), and is deep enough for large ships to take shelter in. There are two piers, each 80 metres in length, chiefly used for loading ships with coal.

When landing, passengers are transferred from the ship to the pier by sampans; *fare* 10 cents. *Hotel:* Hôtel de Hongay, room $1.50, meal $1.50.

Baie d' Along or the Bay of Along is considered to be one of the three wonderful sights of French Indo-China, the other two being the Tombs of the Emperors of Annam (see P. 166) at Hué and the Ruins of Angkor (see P. 203), Cambodia. To visit Along Bay, tourists should first come to Hongay and thence start on a sight-seeing excursion to the famous bay.

The coal-mines for which Hongay has become well known are chiefly at Hatou and Nagotna. The latter place is connected by a light railway of 14 km. with Hongay. The coal is found near the surface of the ground, and some 5,000 people are daily engaged in digging it out, presenting a spectacle not unlike a huge ant-hill. The annual output from all the mines in these regions amounts to 500,000 tons. In the neighbourhood of Hongay are many workshops, connected in one way or another with coal-mining, and the city shows unmistakable signs of growing prosperity. These coal mines are worked by the Mines de Hongay (Société Anonyme) having a capital of 4,000,000 francs, with its head office in Rue de Caumartin, Paris.

Along Bay (Baie d' Along).

Itinerary Plan: Take steamer from Hai-phong, (leaving Hai-phong at noon daily, except Sundays) and reach Hongay at 5 p.m. the same day (*fare*, $3.60). On arrival at the hotel, order at once a sampan for the next day's use, for which the fare per day is about $1.20. One full meal and the necessary beverages should be provided for the excursion. Do not wear your best clothing, for it is apt to get badly soiled. For use in the grottos, take a pocket-lantern or a candle.

THE 'CHANDELIER,' BAIE D'ALONG.

During Christmas week (Noël), or the Easter holidays (Pâque), or on Whitsunday (Pentecôte), a party of 6 to 8 persons may organize an excursion to Along Bay, hiring a steam launch (charge $60 to $70)—the cost to each person amounting to $15 to $20, including $4 per diem for food. A slightly larger steamer may be hired for $80 to $120.

Hai-phong to Hongay. After leaving Hai-phong, our steamer sails on the lower course of the Cua-cam, where the banks sometimes come close together, reducing the stream to a very narrow channel, while the river runs in an S-shaped course, making many meanderings, and thus cutting its way through an extensive delta plain, covered by a thick growth of brushwood. The monotony of the scenery is relieved only by the sight of many chimneys sending off smoke in the direction of Hai-phong, or by a view of the picturesque sails of many native junks, sometimes running in an unexpected direction, showing the constant changes in the course of the river. Our ship calls at Quang-yên and, soon after leaving it, she enters the strait leading to Along Bay. Now there opens before us a perfect panorama of a most beautiful 'public garden on the sea,' the view of which is particularly charming, when the innumerable isles which stud the bay are half covered by a veil of thin mist. The isles are so close together that at times they apparently close up the passage, at other times our ship runs through a sea lane shut in by a series of islets on the two sides. When we emerge from this cluster of islands into an open space of the sea, we find ourselves almost face to face with a town standing on a bare sand-hill. This is Hongay.

Views of Along Bay. The bay lies in front of Hongay and is 100 km. in length and 50 km. in width, while its N. end leads into the Bay of Fait-si-long. We leave Hongay on a sampan or a steam-launch and soon enter a passage, making endless meanderings through innumerable limestone rocks of all shapes and sizes.

Some of these rocks or islets have names indicative of their different shapes, viz., Hat Is. (Ile du Casque), Chandelier Is., Toad Is. (Ile du Crapaud), Inkstand Is. (Ile de l'Encrier), Monk Is. (Ile du Moine). Monkey Is. (Ile du Singe). There are, besides, islands containing long and deep grottos, such as Grotte de la Surprise, des Merveilles, le Cirque, le Tunnel. This group of islands extends as far as Table Is., which lies to the E. of Fait-si-long Bay. Many of these islands bear marks of wave-like lines, showing the action of the sea continued for ages. The view of the islets is best, when the tide is low. In some cases many rocks and islets surround a small sheet of water as if it were a lake, to reach which our boat will have to go through a long subterranean passage. If accompanied by a competent guide, tourists should by all means visit the grottos (ladies may enter into the first parts of the cave), of which the most interesting ones are found on Ile des Merveilles and Ile de la Surprise. The characteristic feature of the views of Along Bay is their constant and complete change, a new and different sight being in store for us at every different moment as we go along. The best time to visit Along Bay is between October and March.

Governor-General Paul Doumer formulated a plan of connecting Hongay with Hai-phong by a canal of 40 km., but the plan still remains unrealized. The port is deep and much superior to Hai-phong as an anchorage for steamers. In the neighbourhood of Hongay are several coal-mines, of which the Hongay and Kébao mines are the better known ones.

Port-wallut, situated on the E. coast of Ile Kébao, is a port of call for steamers plying between Hai-phong and Moncay. The town contains a custom-house and barracks for native troops. About 15 km. from here is the town of Kébao, a coal-mining centre, (the two towns being connected by a light railway).

Mui-ngoc is a small town in the province of Hai-ninh, and is the N. terminus of a steamer line having Hai-phong as its S. terminus. The steamer which left Hai-phong at noon on the previous day reaches Mui-ngoc in the early morning and leaves again at 11 p.m. of the same day.

Moncay, capital of the province of Hai-ninh, is situated on the coast of the mainland. Between here and Mui-ngoc is maintained a passenger and freight service by means of native boats (*lai-than*); transit, 4 hrs.; *fare* $1 per passenger. Off Moncay and at a distance of 7 km. from it is the Ile de Traco, which has beautiful seabeaches all along its coasts and enjoys moreover a moderate climate. The island will doubtless come to be a popular summer resort for European residents at no distant date.

From Hai-phong to Phu-lang-thuong (by river steamers).

Dong-trieu (30 km. from Hai-phong), a garrison town in the province of Hai-duong, is situated 5 km. N. of the place where the two rivers of Song Gia and Song Kinh-thay meet. To the E. of this and at a distance of 7 km. from it is the village of Mao-khê, where is an agricultural undertaking, run by Franco-Japanese co-operation. Other enterprises, like mining, pottery, forestry, etc., have also been started here.

Sept-Pagodes (25 km. from Hai-duong) is situated on the left bank of the Thai-binh and was formerly the capital of a military district (territoire militaire). The region round about the town is rich in fine scenery, besides enjoying a healthy climate. The place is most advantageously situated as regards facilities of river communication—there is a daily steam-launch service to Phu-lang-thuong, Dap-câu, and Hai-phong. It carries on a large trade in lumber.

Phu-lang-thuong (89 km. from Hai-phong, see P. 157), capital of the province of Bac-giang is the termin us of the steamer service from Hai-phong.

Dap-câu (89 km. from Hai-phong) is a town in the province of Bac-ninh and the terminus of a steamer line (via Sept-Pagodes) from Hai-phong (see P. 156).

Hai-phong to Hanoi, by railway (101,7 km.)

From Hai-phong to Hanoi, there are three trains daily from the Central

Station (Gare Centrale), Hai-phong; time, 3½ hrs. (except the evening train, 2¾ hrs.); *fare* $5.10 (1st cl.), $3.57 (2nd cl.), return tickets at 25% discount available for 3 days, if for a distance of 100 km. or less, one day being added for each additional 100 km. or fraction thereof; Free luggage allowance 30 kgs.

Soon after leaving Hai-phong, the train crosses a large iron bridge (90 m. in length), which spans the Song Tam-bac, and from here on, it traverses an extensive plain, consisting almost exclusively of paddy lands, only variegated here and there by hamlets invariably surrounded by bamboo groves. Occasionally grave-yards come in sight, consisting of a large number of mere hemispherical mounds of earth, without a single monument of any kind.

Hai-duong (45 km. from Hai-phong, in 1⅓ hr.), capital of the province of the same name, is situated at the junction of the two rivers, Ké-sat and Thai-binh, and contains the Provincial Government House (Hôtel de la Résidence), Native Army Barracks (Poste de Garde Indigène), a small public garden (Square), Custom-House, etc. In the neighbourhood of the city there are several scattered temples, which were founded in the time of the Lê Dynasty. The N. part of the town is occupied by the old Annam castle, with the railway station on the N. side of it. Among the products of the place, the most important is rice, followed by building stones, bricks, charcoal, tobacco, and betel-nut. Pop. 12,000.

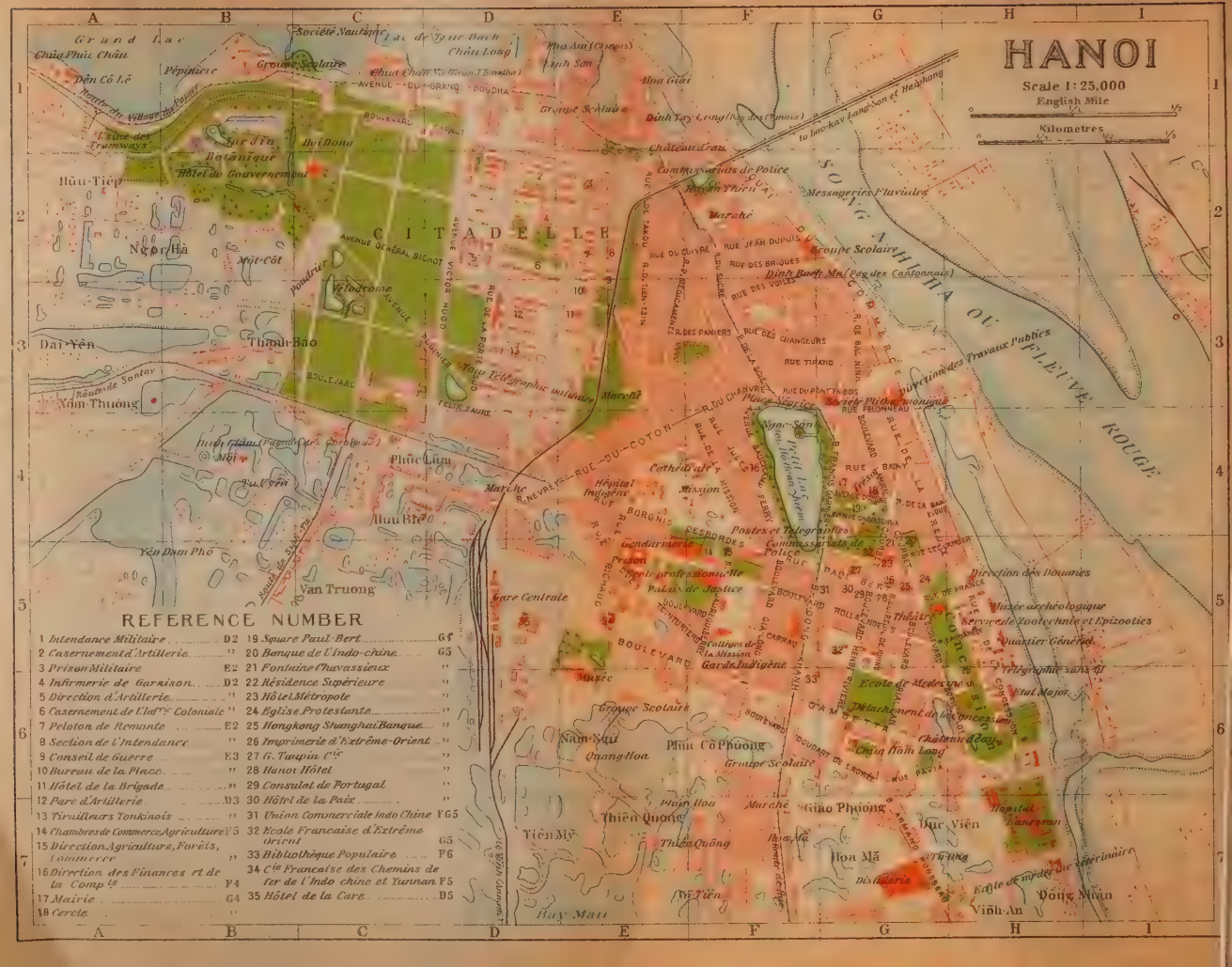
Cam-giang (62 km. from Hai-phong) is in rail connection with Phu-ninh-giang, 43 km. to the S.E. (in 3¼ hrs.), by means of a light railway which takes in the town of Ké-sat; *fare*, 42 cents to Ké-sat, $2.67 to Phu-ninh-giang. There are two trains to Phu-ninh-giang, which connect with trains on the main line coming from Hai-phong, and three more trains besides to Ké-sat.

Ké-sat (7 km. from Cam-giang) is an important local market, with a population of about 3,000. It contains a small native garrison.

Phu-ninh-giang (42 km. from Cam-giang), situated on the right bank of the Canal des Bambous, is an important trading centre. The town is only about fifteen years old, and its rapid growth is chiefly due to the completion of a light railway from Cam-giang. It is also connected by a steamer service both with Hai-phong and Hanoi. The town contains a large number of brick buildings.

Gia-lam (96 km. from Hai-phong) lies on the left bank of the Red River (Fleuve Rouge) and opposite to Hanoi. It is chiefly important as being a gateway to Hanoi for all the railways reaching there, except one from Vinh in the S. The two lines to Yun-nan and Lang-son branch off from this place. Near Gia-lam Station, there are railway sheds and machine shops. A large iron bridge (Le Pont Doumer) connects Gia-lam with Hanoi.

Le Pont Doumer (1,682 metres in length), so named in honour of Paul Doumer, the celebrated Governor General of the time, was completed in 1902, at a cost of 6,120,000 francs. The most difficult, and consequently the most expensive, part of the construction consisted in laying extraordinarily deep foundations for the supports of the bridge, this being rendered necessary by the deep, silty nature of the river bed. It is needless to say that the bridge is an immense benefit to the city of Hanoi, which thus became the central railway rendezvous for all the railways of Tongking.


HANOI
Scale 1:25,000
English Mile
Kilometres
REFERENCE NUMBER
1 Intendance Militaire D2
2 Casernement d'Artillerie "
3 Prison Militaire E2
4 Infirmerie de Garnison D2
5 Direction d'Artillerie "
6 Casernement de l'Infie Coloniale "
7 Peloton de Remonte E2
8 Section de l'Intendance "
9 Conseil de Guerre E3
10 Bureau de la Place "
11 Hôtel de la Brigade "
12 Parc d'Artillerie D3
13 Tirailleurs Tonkinois "
14 Chambres de Commerce, Agriculture F5
15 Direction Agriculture, Forêts, Commerce "
16 Direction des Finances et de la Compte F4
17 Mairie G4
18 Cercle "
19 Square Paul-Bert G4
20 Banque de l'Indo-chine G5
21 Fontaine Chavassieux "
22 Résidence Supérieure "
23 Hôtel Métropole "
24 Eglise Protestante "
25 Hongkong Shanghai Banque "
26 Imprimerie d'Extrême-Orient "
27 G. Taupin Cie "
28 Hanoi Hôtel "
29 Consulat de Portugal "
30 Hôtel de la Paix "
31 Union Commerciale Indo Chine F G5
32 Ecole Française d'Extrême Orient G5
33 Bibliothèque Populaire F6
34 Cie Française des Chemins de fer de l'Indo chine et Yunnan F5
35 Hôtel de la Care D5
CITADELLE
Grand lac
Société Nautique
Pépinière
Groupe Scolaire
Jardin Botanique
Hôtel du Gouvernement
Hôtel Doné
Nghi Tàm
Mât-Côt
Vélodrome
Thanh Bào
Dai Yên
Yên Thuong
Phuc Lâm
Mai Dich
Yên Dinh Pho
Van Truong
Gare Centrale
Marché
Hôpital Indigène
Mission
Cathédrale
Poste et Télégraphes
Commissariats de Police
Prison
Palais de Justice
Gendarmerie
Musée
Square Scolaire
Nam Sach
Quang Hoa
Phuc Co Phuong
Thien Quang
Tien My
Bay Mau
Giao Phuong
Hon Ma
Distillerie
Hôpital Indigène
Ecole de Médecine
Etat Major
Château d'Eau
Direction des Douanes
Musée archéologique
Service de Zootechnie et Epizooties
Quartier Général
Télégraphe sans fil
Ecole de Médecine Vétérinaire
Vinh An
Dong Mien
Thuong
Messageries Fluviales
Service Phytopathologique
Inspection des Travaux Publics
Fleuve Rouge
Rivière Noire
Rivière Claire
Rivière de Sontay
Chemin de fer de Yunnan
to Lao-kay Langson et Haiphong
Grand Boulevard
Avenue du Grand Bouddha
Avenue Général Bichot
Avenue Victor Hugo
Rue du Coton
Rue du Chanvre
Rue du Papier
Rue des Voiles
Rue des Changeurs
Rue Tirant
Rue Jean Dupuis
Rue des Briques
Rue du Cuivre
Rue du Tambour
Rue de la Soie
Rue des Paniers
Rue du Plant en Bois
Rue Félonneau
Rue Bâty
Rue de la Poterie
Rue de la Porte Obo
Rue Félix Faure
Rue Borgnis Desbordes
Rue de France
Rue Paul Bert
Rue Richaud
Rue Lagrandière
Rue Destenay
Rue Pavia
Rue Ladrède
Rue Amiral Courbet
Boulevard Carreau
Boulevard Gambetta
Boulevard Rollet
Boulevard Henri Rivière
Boulevard Francis Garnier
Boulevard Bonnal
Boulevard Doudart de Lagrée
Boulevard Amiral Courbet
Boulevard Paul Bert
Boulevard Gia Long
Boulevard Carnot
Boulevard Puginier
Boulevard Jules Ferry
Boulevard Galliéni
Boulevard Dupleix
Boulevard Beaumont
Boulevard Wilmotte
Boulevard Bobillot
Boulevard Delanoue
Boulevard Dieulefils
Boulevard Dupuis
Boulevard Bonnard
Boulevard Rialan
Boulevard Lanessan
Boulevard Bourret
Boulevard Bouchet
Boulevard Dubocage
Boulevard Dubois
Boulevard Dumoutier
Boulevard Dupont
Boulevard Duvillier
Boulevard Gallieni
Boulevard Gaudot
Boulevard Gautier
Boulevard Gillot
Boulevard Gouin
Boulevard Grandière
Boulevard Grandjean
Boulevard Grenier
Boulevard Guynemer
Boulevard Hardy
Boulevard Hautefeuille
Boulevard Hellot
Boulevard Henri d'Orléans
Boulevard Hermann
Boulevard Hoffmann
Boulevard Hogan
Boulevard Hugon
Boulevard Huguenin
Boulevard Hulot
Boulevard Humbert
Boulevard Hutinel
Boulevard Ichac
Boulevard Jacquin
Boulevard Jamet
Boulevard Jamin
Boulevard Jardin
Boulevard Jaubert
Boulevard Jauréguiberry
Boulevard Jeanne d'Arc
Boulevard Jeanningros
Boulevard Jobert
Boulevard Joffre
Boulevard Joffre
Boulevard Joffre

Route XI. Hanoi City.

Arrival. The train coming from Hai-phong, after passing through Gia-lam and crossing over the Pont Doumer, runs along the side of the Citadelle (occupied by the garrison), till it arrives at the Central Station or Gare Centrale (Pl. D 5), Hanoi. Here also arrive trains coming from Yun-nan and Lao-kay, from Lang-son, and from Vinh, Annam. Not only is Hanoi the meeting place of all the railways in Tongking, it is also the centre of the riparian trade of the neighbourhood,—the rivers and canals radiating in various directions from the city affording it ample facilities in this line.

Porters. At the Central Station are porters, with a numbered red band on the left arm; they will convey luggage at about 2 cents per piece. **Rikishas:** 10 cents for a short distance; 25 cents per hour, and 10 cents per each additional ½ hour. **Carriages:** $1 for a short distance; $2 per hour, and $1 per each additional hour; carriage station in front of the Hôtel Métropole. **Automobiles:** $5 per hour, $30 per day.

Electric Tramways. The Central Station is not in close touch with the street tramway, which therefore can hardly be availed of by those arriving by trains. *Tariff for Tramways:* On any single line within, or to places out of, the city, 4 cents (children below the age of seven, 3 cents); when transferring from a city line to a suburban line, 7 cents (children, 5 cents); Parcels, 2 cents apiece, except those which may be held on one's lap; traffic hours, 5.30 a.m. to 8.30 p.m., the trams being run every 12 min.

Lines in Operation: (1) Line starting from Place Négrier at the N. end of Petit-Lac and ending at Village du Papier, after traversing the Native Town and Route de Grand Bouddha; (2) Line starting from Place Négrier and reaching to Son-tay Street, after passing through the S.W. side of the Native Town; (3) Line branching off near Boulevard Félix-Faure and reaching Thai-ha-ap; (4) Line running along the E. side of Petit-Lac and reaching Bach-mai, via Rue Paul-Bert.

View of Petit-Lac in the Middle of Hanoi City.

Hotels: Hôtel Métropole (Pl. 23, G 5), **17**, Boulevard Henri-Rivière (20 min. from Station by rikisha). *Tariff:* European plan —room $2.50 and upward, single meal $1.75; American plan—$6 and upward.—Hanoi Hôtel (Pl. 28, G 5), 23, Rue Paul-Bert, (20 min. from Station by rikisha. *Tariff:* room $2 and upward, single meal $1.50.—Hôtel de la Gare (Pl. 35, D 5), 109, Boulevard Gambetta (near Station).—Hôtel de la Paix (Pl. 30, G 5), 32 and 35, Rue Paul-Bert.

Restaurants and Cafés: Café de l' Hôtel des Colonies, 80, Rue Jules-Ferry; Café de Paris, Rue Jules-Ferry; Café de l' Hôtel Métropole, Square Chavassieux; Café de Hanoi Hôtel, 23, Rue Paul-Bert; Café de la Gare, Boulevard Gambetta; Café de l' Hôtel de la Paix, Rue Paul-Bert; Taverne Alsacienne (Café, Hôtel, Restaurant), 13, Rue de la Citadelle.

General Description of the City. Hanoi (21° 2′ N. lat. and 105° 45′ E. long.) occupies a central position in Tongking, extending for a distance of 2½ km. along the right bank of the Red River, about 160 km. (100 m.) from the river mouth. The city comprises an area of about 945 hectares or 9.45 sq. kilometres. Its present site was originally occupied by 106 villages, the greater number of which have become entirely effaced, being absorbed in the city,—only certain Annamese streets still retain a separate chief of their own (les chefs de rue indigène). The city proper has a population of 85,000 (1913), of whom Europeans (largely French) number 2,159, Chinese 2,907, and Japanese 87. Besides these, there are about 30,000 natives living in the suburbs, which, being added to the number already given, would swell the figures to 115,000 (exclusive of troops). Of the European residents of the city, about 1,300 Frenchmen have the franchise for the municipal assembly.

Hanoi is the capital of Tongking and at the same time also the capital of French Indo-China. The city therefore contains the Office of the Governor-General, as well as that of the Resident-Superior of Tongking, the Court of Appeal of Indo-China, the Garrison, etc. It is also the base of all the French operations (political and financial) in South China. The city is governed by an elective municipal council, presided over by a Mayor, who is a civil service administrator.

The city of Hanoi is composed of three parts,—French Town (Quartier Français), Native Town (Cité Indigène), and the Citadel (Citadelle).

French Town. The Quartier Français is separated from the Cité Indigène by a picturesque lake, Petit-Lac, and occupies the S. section of the city. It grew out of the original concession and now reaches as far as the Central Station. In this section, there are many wide, well-paved streets and promenades, which are lined by European buildings. Of these streets the most flourishing is Rue Paul-Bert (near Petit-Lac), which the Hanoiens are fond of comparing with the Rue de la Paix of Paris. Boulevard Gambetta (2 km.) is the longest street, extending from the station to the Military

Hospital (Hôpital Militaire), which is on the bank of the Red River. Most of the Government and public buildings are found in or near the original concession quarters.

Native Town. The Cité Indigène lies on the N. side of Petit-Lac and occupies the N.E. section of the city. Formerly this formed a trading quarter outside the walled Annamese town, and it still retains most of its original features, so that anyone entering it after visiting the French town could not fail to be struck by the backward, medieval aspect of the streets. Here live mostly Annamese and Chinese, in streets called by the names of the merchandise chiefly handled in each, viz. Silk Street (Rue de la Soie), Sugar Street (Rue du Sucre), Rice Street (Rue du Riz), etc. There are a number of Chinese restaurants in Rue des Voiles. In Rue du Riz are many large markets (marchés) of steel framework (52 metres in length and 19 metres in height). Nearly all trade in native poducts is transacted in the Native Town.

The Citadel, or the site of the old citadel or fortress, which lies to the W. of the Native Town, has an area of 300 acres and is now occupied by the barracks and other military buildings. The place is surrounded by a simple palisade. Administratively, there is included in this section the New European Quarter (Nouveau Quartier Européen), at the W. end of which is the palace of the Governor-General and the Botanical and Zoological Gardens, which are near Grand-Lac.

Not only is Hanoi quite European in aspect, but it possesses most of the necessary outfits of a modern city, viz., electric light, drainage and water-supply systems, electric tramways, etc.

History. The name Hanoi, now denoting the capital of French Indo-China, originally meant the region enclosed by the Red River and its branch, the Dai,—as the name itself, meaning 'Inside the Rivers,' shows. Previous to the time when the capital of Tongking was permanently fixed at this place, Annamese princes or kings used frequently to change their seat of government, and, among other places, it appears Hanoi had been chosen as such a number of times. The earliest mention we find in history of this place being made the seat of government was in the time of the ancestors of the Han tribe. But the peace and order of the place have frequently been disturbed by Chinese invasions. At certain epochs (e.g. early in the 15th century), the whole of Tongking was held and governed by the Chinese. In 1427, Lê-Loi, the founder of the Lê Dynasty, after a long struggle freed the land from the thraldom of that foreign rule. Early in the 16th century, the French, Dutch, English, and other Europeans began to visit Hanoi for purposes of trade. But it was in the latter half of the 19th century that the French assumed a protectorate over this region. They were already established in Cochin-China, and on appeal from French traders in Hanoi, who were much persecuted by the Annamese authorities, the then Governor, l' Amiral Dupré, of Cochin-China sent to Tongking in 1873 Lieutenant Francis Garnier in command of two gun-boats,

with 200 marines on board, for the purpose of redressing those grievances. After futile negotiations, Garnier first occupied the Hanoi Citadel and afterwards a larger part of the delta region. The Annamese Government ostensibly sued for peace, while at the same time they were soliciting the aid of a guerilla force of Chinese bandits, known as the 'Black Flags.' With their aid the Annamese attacked the French, and Lieutenant Garnier lost his life in a skirmish. Whereupon the Governor of Cochin-China sent M. Philastre to settle matters by negotiation, and he succeeded in 1874 in concluding with the Annamese authorities a treaty of peace, according to which they agreed to open Hanoi, Hai-phong, and Qui-nhon to foreign trade, conferred on the French the right of navigation of the Red River, and agreed to set apart a concession in Hanoi where French troops might be stationed. But the terms of the treaty were not faithfully observed, as the Annamese Government was encouraged by a protest from Peking, where Tongking was claimed as a vassal state. In 1882, a second and much larger expedition was sent under Captain Henri Rivière, who effectively seized Hanoi, and by the treaty of August 25, 1883, the Annamese Government finally agreed that Tongking should become a French protectorate. In 1886, M. Paul Bert arrived at Hanoi as the first governor of Tongking.

Foreign Consulate,—Portuguese (Pl. 29, G 5), Rue Paul-Bert.

Post, Telegraph, and Telephone Offices: (1) Bureau Central (Pl. G 4, 5), Square Paul-Bert; (2) Bureaux Secondaires, at the station (Gare Centrale) and the Grand Bouddha.

Telephone fee between Hai-phong and Hanoi,—20 cents per 3 minutes' conversation.

Wireless Telegraph Station (Pl. H 6), Bach-mai.

Botanical Garden, Hanoi.

Banks: Banque de l' Indo-Chine (Pl. 20, G 5), 47, Boulevard Amiral-Courbet; Hongkong & Shanghai Banking Corporation (Bonnault, représentant de Denis Frères; Pl. 25, G 5), 16, RuePaul-Bert. Chartered Bank of India, Australia, & China.

These banks are open daily from 7 to 10 a.m. and from 2 to 4 p.m., except on Saturdays, when they close in the afternoon.

Government Offices, etc.: Hôtel du Gouvernement Général (Pl. C 2), end of Avenue Puginier; Hôtel du Résidence Supérieure (Pl. 22, G 5), 10, Boulevard Henri-Rivière; Mairie (Municipal Office), (Pl. 17, G 4), Avenue Domine; Trésor (Central Treasury), (Pl. G 4), Avenue Domine; Direction des Traveaux Publics (Public Works Department), (Pl. G 3, 4), Rue des Bambous; Direction Générale des Finances (Pl. 16, F 4), 18, Avenue Beauchamp; Palais de Justice (Pl. E 5), Rue de Palais de Justice; Commissariat de Police (Pl. F 5), Boulevard Paul-Bert; Chambre de Commerce et d' Agriculture (Pl. 14, F 5), Rue Borgnis-Desbordes; Direction des Douanes (Customs Office) (Pl. H 5), Rue de France; Direction des Agriculture, Forêt, Commerce (Pl. 15, F 5), 2, Boulevard Jaureguiberry; Caserne de Troupe Coloniale (Colonial Garrison) (Pl. 6, D 2), Citadelle; Prison Civil (Pl. E 5), Rue des Teinturiers; Hôpital Lanessan (Pl. H 7), Boulevard Gambetta; Hôpital Indigène (Pl. E 4), Rue Borgnis-Desbordes.

Roman Catholic Churches—Cathédrale Saint Joseph (Pl. E F 4), Rue de la Mission; Eglise Saint Antoine, Boulevard Doudart-de-Lagrée; Chapelle des Carmélites, Rue Borgnis-Desbordes; Protestant Church—Temple, Boulevard Amiral-Courbet.

Schools:—L'Ecole Française d' Extrême-Orient* (Pl. 32, G 5), Boulevard Carrau; L'Ecole de Médecine (Pl. G H 6), Boulevard Bobillot; L'Institution des Jeunes filles, Boulevard Rollandes; Collège Paul-Bert, Boulevard Dong-khank; Collège du Protectorat, Route du Village du Papier; Ecole de l' Hôpital Chinois, Route de l' Hôpital Chinois; Ecole Professionelle de Hanoi, Boulevard Jaureguiberry; Ecole de Médecine Vétérinaire (Pl. G 7), Armand Bousseau; ***Libraries:***—Bibliothèque Populaire (public library) (Pl. 33, F 6), Rue de Vong-Duc; Bibliothèque de l'Ecole Française d' Extrême-Orient, Boulevard Carrau.

***L'Ecole Française d' Extrême-Orient** was established by Governor-General Paul Doumer in 1898, on the initiation of the Académie Française, under the name of the Mission Archéologique d' Indo-Chine; the institute assumed its present title later, in order the better to signify its permanent nature. It is similar in character to the Ecole d' Athènes, de Rome, du Caire, and has, for the object of the institution, the making of researches (1) in the ancient arts, epigraphs, races, history, literature, etc., of the Orient, including India: (the results of researches are published (every 3 months) in the 'Bulletin de l'Ecole Française d'Extrême-Orient,' (see P. 144), which supplies valuable materials for the oriental investigator), (2) in the method of preserving the ancient monuments of Indo-China. The institute also aims at looking after the real enforcement of the rules already promulgated for the preservation of those monuments.

The library contains a valuable collection of books, which, as far as its special field is concerned, is justly regarded as unique: Books in European languages, 5,505 vols., in Chinese 2,080 vols., in Japanese 1,186 vols., and in Annamese 1,392 vols.

Shops, Manufactories, etc.: Match Factory (Fabrique des Allumettes), on the road to Hué; Tobacco Factory (Manufacture de Tabacs), Phuc-lâme; Earthenware and Bricks (Fabrique de Céramique, Briquette), Route du Grand Bouddha; Cotton Spinning (Filature de Coton), Quai du Commerce; *Book Stores,*—Gallois-Chneider (Librairie d' Extrême-Orient), Rue Paul-Bert; Taupin, 50, Rue Paul-Bert; *Photographers,*—H. Watanabe, 54, Rue de Tien-tsin; N. Yamada, 26, Rue de Citadelle; *River Steamer Companies,*—Messageries Fluviales (Pl. F 2) (successeurs A. R. Marty), Quai du Commerce; Union Commerciale Indo-Chinoise (service subventionné), Quai du Commerce; *Livery Stables,*—Charles Clop, 45, Rue de la Chaux; *Automobile Garages,*—Ch. Boillot, 1, Rue Paul-Bert; Deleule et Cie., Rue Jules-Ferry; *Department Stores,*—Union Commerciale Indo-Chinoise (Pl. 31, F G 5), Rue Paul-Bert; Larrivé Frères, Rue Jules-Ferry; *Market,*—Rue du Riz; Open daily 5 a.m. to 4 p.m.

Shops for native embroideries, etc., several in Rue Paul-Bert and Rue Jules-Ferry.

Newspapers and Periodicals: L' Avenir du Tonkin (daily, annual subscription, 50 piastres in Indo-China), 106, Rue Jules-Ferry; L' Indépendance Tonkinoise (daily, annual subscription, 18 piastres in Indo-China), 16, Boulevard Carrau; La Revue Indo-Chinoise (monthly, 21 piastres a year, Imprimerie d' Extrême-Orient), Rue Paul Bert; Bulletin de l' Ecole Française d' Extrême-Orient (quarterly, 20 piastres a year, Imprimerie d' Extrême-Orient), Rue Paul-Bert; Bulletin Economique de l' Indo-Chine (18 piastres a year, Imprimerie d' Extrême-Orient), Rue Paul-Bert; Journal Officiel de l' Indo-Chine Française (twice a week, 25 piastres a year, Imp. d' Extrême-Orient), Rue Paul-Bert.

Theatres and Music:—Nouveau Théâtre (Pl. G 5), Rue Paul-Bert (open Oct.—Apr. on Tu., Thur., Sat., and Sundays); Théâtre Chinois, Rue des Voiles; Théâtres Annamites, Rue des Eventails et Rue des Changeurs. Military Band (during the winter season)—(every Thursday, 4.30–5.30 p.m. in Square Paul-Bert; every Sunday, 4.30–5.30 p.m., in the Botanical Garden). Société Philharmonique's Concerts—At Hôtel de la Société (from time to time); Other concerts, often held at Hôtel Métropole and at Hanoi Hôtel.

Clubs, etc.: Cercle de l' Union (restaurant), Square Paul-Bert; Cercle du Commerce, Rue Paul-Bert; Tennis Club, Boulevard Rollandes; Union Sportive, Vélodrome, Avenue Puginier; Cercle d' Escrime; Syndicat d' Initiative du Nord-Indo-Chinois (tourist bureau). Race Course (Champ de Courses), Route du Village du Papier,—races held 12 times a year. Bicycle contests at Vélodrome (Pl. C 3), near the Botanical Garden; here also pedestrian contests are often held; besides the stadium there is a tennis court.

Places of Interest. ***Museum:***—(1) Musée Commercial et Industriel (Pl. F 6), near the station. The Commercial and Industrial Museum is in the late exposition building, 100 metres in frontal length and 25 metres in depth, two-storied and surmounted by a central dome. The articles on exhibit consist of raw materials and

semi-manufactured articles, being samples collected from all the countries of the Orient, from India to Japan. The museum is under the control of the Department of Agriculture, Forests, and Commerce. Open every day of the week, except Monday, from 8 to 11 a.m. and from 2 to 5 p.m.; admission, free.

(2) Musée de l' Ecole Française d' Extrême-Orient (Musée Archéologique; Pl. H 5), Rue de la Concession. This museum is under the control of the l' Ecole Française d' Extrême-Orient and contains collections of the ancient fine arts and technical products of Indo-China; it will be found far more interesting than the Industrial and Commercial Museum just mentioned, where only raw materials and semi-manufactured articles are on exhibit. Open on Thursdays and Sundays, from 8 to 11 a.m. and from 2 to 5 p.m.; by obtaining special permission from the Ecole Française d' Extrême-Orient, it may be visited on other days. Admission, free.

Note: The exhibits are carefully numbered and classified. A general description of the kind of exhibits on each shelf is given in French and Chinese. A special description is given on a card attached to each object. (1) *Salle Carpeaux:* This hall contains fine art objects of Indo-China; treasures (dépôt sacré) of the temples of Champa (the present Annam was called Champa in the period when it was subject to Siam), earthenwares of Champa and Cambodia, Buddhist images of Siam and Burma, and pottery and seals of Cambodia and Siam. (2) *Salle Odend'hal.* Here are collected objects ascribed to pre-historic times and specimens of fine arts under Hindu influence: Objects ascribed to pre-historic times,—stone implements obtained in Annam; articles for personal decoration and bone implements, bronze axes and implements of war, etc., obtained from Laos and Cambodia. *1st Section:* Carvings of the Khmer period and those from ancient Siam; articles collected from Cambodia, Siam, and Burma. *Central Section:* Buddhist images from Siam; fine art objects from Cambodia, Siam, Laos, and Burma; implements of war from Burma and Laos. *3rd Shelf:* Bronze Buddhist images from Laos. (3) *Galerie Francis-Garnier:* fine art objects of the Cham and Khmer periods, and those from Siam and Burma. (4) *Salle de Beylie:* Annamese fine arts of recent times,—inlaid metal works, bronze articles, wood works, Tongking pottery, (e.g. articles from Battrang, near Hanoi). (5) *Salle Doudart de Lagrée:* fine art objects from China, and those of ancient and modern times from Annam. *S. and Central Sections:* Porcelain ware (a large pot, perfume-burner, etc.) from Battrang; pottery and broken pieces of architecture from Dai-la; blue porcelain from China, Annam, and Korea (Chôsen); female figures of porcelain from China. *Back Section:* bronze drums, etc. (6) *Staircase and Galerie Henri Mouhot:* Mainly fine art objects of the Khmer and Cham periods,—a large beam from a temple by Grand-Lac, a screen from a Chinese temple in Hai-phong, photographs of Angkor. (7) *Salle Armand Rousseau:* Chiefly fine art objects from Thibet, Japan, and China. Thibet Section: Buddha and Kwan-on images, fierce-looking Thibetan images. Japan Section: Kuan-non images; sword-guards, seal-cases, mandara, etc. China Section: porcelain, articles made of porcelain or bronze or porcelain statues. (8) *Galerie Henri Rivière:* Old coins and cash from various countries. (9) *Salle Paul-Bert:* Fine art objects from China, Annam, and Korea (Chôsen). China Section: porcelain (pots, jars, vases), bronzes, ancient pottery, cloisonné and lacquer ware, articles of hard precious stones, miscellaneous articles. Annam Section: implements of war, bronzes. Korea Section: pots, cosmetic boxes, perfume burners, etc.

Jardin Botanique (Pl. B 1, 2), at one end of Route de Grand Bouddha. In this public garden, which comprises 25 hectares, are broad roads running in various directions, which make an excellent drive. Here are collected about 3,000 kinds of tropical plants, besides which there is a menagerie containing tigers, leopards, bears,

monkeys, deer, and various kinds of birds, all representative of the fauna of Indo-China. In the garden is the tomb of an Annamese general, who flourished early in the 19th century. The garden is maintained by the government of Indo-China, besides which the latter maintains near by an experimental farm, where trees and flowers may be purchased.

Hôtel du Gouverneur-Général (Pl. C 2), near the Jardin Botanique. This palace of the Governor-General, situated near the entrance to the Botanical Garden, is a new building, commenced in 1901 and completed in 1906. It is surrounded by a moat, and within the front gate there stands a monument to Théodore Rivière, the conqueror of Tongking.

Grand Bouddha (Pl. C 1), or more properly the Temple de Châu-vu, on Route de Grand Bouddha and to the N. of the Citadel (within reach of the street tram-car), stands at the starting point of a dyke separating Grand-Lac from Truc-bac and is surrounded by a garden overgrown by trees. The building is recent, the original one having been destroyed since the coming of the French. In the main hall of the temple is a bronze gong (Khanh) in a wooden frame hanging on the wall. Besides the grand Buddha, which is the chief image worshipped in the temple, there are four altars, each having a spirit-tablet. In the Main Hall, there is also a bronze image of Chén-Vu-ta-ti (probably Kuan-ti of the Chinese, see Note P. 73 Vol. I.).

The eyes of the Image are painted white, while from the chin there flows a long black beard; the left arm is stretched forward and the right hand holds a sword around which is entwined a snake. The image is 3 metres in height, with the feet 80 cm. in length and rests on a carved marble stand, 1½ metres in height.

Entrance of the 'Temple des Deux Dames,' Hanoi.

Le Petit-Lac (Pl. F 4), a picturesque little lake, is close to a small garden, Square Paul-Bert, the two being only separated by Rue Francis-Garnier. The lake contains clear water and lies in the midst of a pretty garden. It is well worthy of being regarded as one of the most charming spots in Hanoi.

The natives call the lake Hoan-kêm-hô, literally, 'the lake to which a sword was returned.' On the lake-side is a small temple, dedicated to a tortoise, which is said to have swallowed the sword and returned to the lake after leaving the land of Lê-Loi.

Lê-Loi, as already mentioned, was a hero who freed the land from the rule of the Chinese and became the founder of the Lê Dynasty, ruling Tongking with the title of Lê-Thai-to from 1428 to 1433. Lê-Loi was a fisherman, and one day, on casting his net into Petit-Lac and drawing it up again, it contained no fish, but a heavy, shining sword. At the same time a divine voice bade him take the sword and drive away the hated Chinese, who then occupied the land. Forthwith he became the head of a devoted band of patriots, who waged sanguinary wars against the Chinese and after 10 years at last succeeded in freeing the land. Then he returned to Hanoi and was about to make a thank-offering to the god of Petit-Lac, when lo! as he neared the lake, wearing that same sword, the latter suddenly left him in the midst of a fearful sound like that of a thunderbolt and, transforming itself into a green dragon, dropped down into the lake.

Square Paul-Bert (Pl. 19, G 4) is a garden close to Petit-Lac. In the garden is a statue of a Résident-Général, which was unveiled in 1890. Near the garden is a small gate, which is said to be the site of an ancient temple, called the Hell Temple, where a theatrical representation of the supposed fearful state of hell used to be given, in order to frighten men from their evil ways.

Temple des Deux Femmes, on the extension of Boulevard Dong Khanh, near its junction with the Hué highway, is a convent, under the management of nuns. The buildings date back to the 12th century, and a path leading to them is paved with stone in the usual Annamese style. These buildings are surrounded by tall banyan-trees. In the innermost hall, behind red curtains, are the two female images, made of hard clay and lacquered over, representing the goddesses worshipped in the temple.

Temple de Bach-ma (Pl. F 3), Rue des Voiles, is a temple dedicated to the hero Bach-ma, a celebrated defender of the kingdom of Annam. In the main hall of the temple is a wooden statue of the hero.

Pagode des Corbeaux (literally, Temple of Crows; Pl. C 4), Boulevard Félix-Faure, is a temple dedicated to Confucius and the god of the earth. The temple is chiefly celebrated on account of a large mango-tree, several centuries old, which is a favourite rendezvous with the crows of the neighbourhood.

Environs of Hanoi. The following are some of the points which may be conveniently visited in the course of a pleasant drive in the neighbourhood of the city:—(1) To 4 Colonnes (12½ km.): first going along the Red River on the Yen-phu-phong dyke, one comes, after passing the village de Nhât-tan, to the village de Thuiphuong, or 4 Colonnes, as Europeans call it. Here is a temple de-

dicated to General Li; (2) A circuit of Grand-Lac (17 km.); (3) To the Village du Papier (6 km.), via Avenue du Grand Bouddha; as its name suggests, the villagers' chief occupation is the manufacture of paper, from the bark of certain trees; (4) To Hoai-duck (7 km.), via Route de Son-tay; (5) To Digue Parreau (5.8 km.); including return route (a) via Son-tay, 13 km., and (b) via Francis-Garnier Dyke and Ha-dong, about 14 km.; (6) A circuit of the city (21 km.); (7) To Digue Sud and Battrang (9 km.); Battrang is noted for pottery-making.

Communications. ***Railways:***—(1) Hanoi–Hai-phong Line (see P. 137). (2) Hanoi–Lang-son–Nam-quan Line (see P. 156). (3) Hanoi–Lao-kay–Yun-nan Line (see P. 149). (4) Hanoi–Vinh Line (see P. 160).

River Steamer Routes: (1) Hanoi–Viétri–Tuyên-quang Line (ports of call, Son-tay, Viétri, Lêmy, Phu-doan, Dia); Steamers leave Hanoi at 9 a.m. on Sundays and Thursdays, and Tuyên-quang at 8 a.m. on Tuesdays and Saturdays. (2) Hanoi-Cho-bo Line (ports of call, Hung-hoa, La-pho, Trung-ha, Tu-vu, Ha-bi, Hoa-binh); steamers leave Hanoi at 9 a.m. on the 9th, 19th, and 29th of each month, and Cho-bo at 4 p.m. on the 1st, 11th, and 21st of each month.

Towns in the Neighbourhood of Hanoi. ***Ha-dong*** (11 km. from Hanoi; 100 km. from Hai-phong) is the capital of the province of the same name. The town used to be known formerly by the name of Câu-do. From Hanoi an electric tramway extends as far as the village of Thai-ha-up, on the way to Ha-dong; *fare* from Place Négrier, 14 cents. Ha-dong is an important market town which does a brisk trade in rice. Rice, indeed, constitutes $4/5$ of the traffic of the place, the rest consisting of lacquer, maize, black peas, peanuts, silk, paper, hats of latanier leaves, etc., all being exported to China.

Grotte et Pagode de Huong-Tich—these grottos and the temple are in Phu de My-duc, Canton de Phu-lun-thuong, Village de Yen-vi, which are 5 hrs.' drive, mainly by automobile, to the S. of Ha-dong. Buddha is worshipped in the temple; but here particularly he is regarded as a great god of fecundity, and crowds of devotees gather to ask for the gift of prosperity. It is estimated that between January and March the pilgrims from all over Tongking who visit this temple amount to 40,000. Besides this, there are in the neighbourhood three other famous pagodas, viz., Pagode de Thien-chu, Pagode de Giai-oan, Pagode de Chua-tien, and these four are known as the Quatre Pagodes. One day will be sufficient for a visit to these places: Automobile from Hanoi to Ha-doan, via Ha-dong; rikisha from Ha-doan to Yen-vi and back (*fare*, 40 cents); sampan from Yen-vi to Thien-chu, that is, to a place near the Grand Pagoda and back (*fare*, $1); the four temples may now be visited either on foot or by palanquin (if the latter is desired, an arrangement should be made beforehand—*fare*, $2).

Route XII. H noi-Lao-kay-Yun-nan-fu,

by railway (761 km.).

The Hai-phong–Hanoi–Lao-kay–Yun-nan-fu Line is the famous Yun-nan Railway (total length 863 km.), managed by the Compagnie Française des Chemins de Fer de l' Indo-Chine et du Yun-nan. The line, traversing Tong-king diagonally in a N.W. direction, crosses the River Claire in the neighbourhood of Viétri. The regions thus far passed consist entirely of delta plains, but the line now enters a mountainous region, for, from this point on, the tracks are laid on the W. side of a mountain range, (forming the water-shed between the Red River and the River Claire), and quite close along the course of the former river as far as Lao-kay. After crossing the Chinese boundary, in the neighbourhood of Lao-kay, the line runs yet higher up, reaching an altitude of 1,700 to 2,000 metres. The route in these parts leads sometimes through thick primeval forests of semi-tropical luxuriance or sometimes along the ridges of precipitous cliffs, on the brink of ravines hundreds of feet deep,—the views from the train to the right and the left being ever-changing and interesting in the extreme.

The whole line is divided into four sections—(1) Hanoi–Hai-phong, (2) Hanoi–Lao-kay, (3) Pho-moi (2 km. this side of Lao-kay)–A-mi-tchéou, and (4) A-mi-tchéou–Yun-nan-fu. There is no through train from one end of the line to the other, but one daily train on each section, so that three days are needed in order to reach Yun-nan-fu from Hanoi. The traveller intending to cross the Chinese boundary should provide himself with a passport from the French Consulate at Ho-kéou (a Chinese city, close to Lao-kay), and if carrying fowling-pieces, a permit for the same. The passport and permit may be obtained by applying 36 hrs. in advance through the railway station of Hai-phong or Hanoi or through the railway company's office in Hanoi. The company will go through all the formalities with the Consulate gratis, the fee to be paid the Consulate being $1½ for passports and $6 for permit to carry guns.

Hai-phong to	Distance	Fare, 1st cl.	Fare, 2nd cl.	Hai-phong to	Distance	Fare, 1st cl.	Fare, 2nd cl.
	km.	$	$		km.	$	$
Yen-viên	112.7	5.10	3.57	Trait-hut ...	303.6	15.17	10.53
Xuân-kiêu ...	117.8	5.35	3.75	Bao-ha	339.0	17.27	11.93
Dông-anh ...	122.9	5.60	3.92	Pho-moi	395.6	20.69	14.21
Thap-miêu ...	140.9	6.50	4.55	Lao-kay ...	397.8	20.81	14.29
Huong-canh ...	149.3	6.95	4.87	Ho-kéou ...	398.8	20.87	14.33
Vinh-yên	155.2	7.25	5.08	Dragon Noir ..	563.3	31.60	21.76
Bac-hat	170.4	8.00	5.60	Pi-ché-tchai ..	576.4	32.44	22.34
Viétri	174.3	8.20	5.70	A-mi-tchéou ...	619.3	35.24	24.28
Phu-tho	200.8	9.50	6.65	Yun-nan-fu ...	863.0	51.10	35.25
Yen-bay	257.1	12.35	8.65				

Yen-viên (10.9 km., in ½ hr.). Here the line to Lang-son (Kwang-si Railway) separates itself from the Yun-nan Line, taking a N.E. direction, while the other line keeps on the N.W. course.

Xuân-kiêu (16 km.) is the site of Co-loa, an old capital of Tong-king, under King An-duong (257–208 B.C.), the place having continued to be the seat of the Central Government till the time of King Ngô-quyên (939–944 A.D.). The Old Walls are still preserved, extending for a length of 7 km. Within the walls, on the site of old palace of King An-duong, stands the Temple Royal, a rare reminder of the early architecture of Tongking.

Dông-anh (21 km.) is on a fine road, available for automobiles, which extends from Hanoi to Cao-bang, via Thai-nguyên and Bac-kan. Tourists going to those places should alight at Dông-anh and hire either carriages or rikishas for the journey, or else avail themselves of the stated automobile service to Bac-kan.

Dông-anh—Bac-kan Automobile Service :—

Dông-anh to	Distance	Time in Transit	Fare, single	Fare, return
	km.	hrs.	$	$
Thai-nguyên ...	52	2	8.00	12.00
Cho-moi	100	4¼	15.50	23.25
Bac-kan	141	6⅔	23.00	34.50

Automobiles leave Dông-anh for Thai-nguyên—daily at 7.45 a.m. (connecting with the 1st train from Hanoi).
" leave Thai-nguyên for Dông-anh—daily at 1.30 p.m. (connecting at Dông-anh with the last train to Hanoi).
" leave Thai-nguyên for Bac-kan—at 11 a.m. on Mondays, Wednesdays, and Fridays.
" leave Bac-kan for Thai-nguyên—at 6 a.m. on Tuesdays, Thursdays, and Saturdays.

Return tickets are available,—for 5 days for 100 km. or less, and for 10 days for more than 100 km.

Thai-nguyên (52 km. from Dông-anh), situated on the right bank of the Song-câu, is the capital of the province of the same name. Though a very important centre even before, the town is now growing fast, as a centre of mining industry, owing chiefly to the opening of a good road. Hôtel Villefranque is the only hotel at this place; those intending to stop overnight should notify the hotel previously by telegram. Alléac is a transportation agent, from whom may be hired carriages, rikishas, and saddle horses.

Cho-moi (100 km. from Dông-anh) is an important market town, having a fair every five days, when merchants gather there from all over the neighbourhood. The merchandise handled includes rice, maize, rubber, etc.

Bac-kan (141 km. from Dông-anh), also the provincial capital, is in Haut Tonkin, so-called in contradistinction to the low delta regions, and commands a beautiful view. The market is opened every five days and always presents a busy scene of traffic.

Hôtel Niolle,—where provisions may be purchased for travel in the interior. From here it is 130 km. of good road to Cao-bang. (see P. 159).

Thap-miêu (39 km.) is near Phuc-yen, the capital of a new province of the same name.

Huong-canh (47.5 km.) is known on account of its product of earthenware pots, used universally among the natives. The neighbourhood abounds in game and is much resorted to by Europeans.

Vinh-yên (53.4 km., in about 2 hrs.) is a garrison town and contains some government offices. To the N. and at a distance of about 14 km. are the mountains of Tam-dao, from out of which there tower the three well-known peaks of Phu-nghia, Thach-ban, Thien-thi (the three together being known as the Trident), named in order from the N. Immediately to the N. of the town is the Défert plateau, and to the S., a high plateau, known as the Cascade d' Argent, a favourite summer resort.

Cascade d'Argent (76 km.) is the name given to a high plateau in the midst of the Tam-dao mountains, the place being 22 km. (in

3½ hrs.) from Vinh-yên. Compared with the unhealthy delta plains, it has a very bracing climate, its highest temperature being 25°–28° C (77°–82° Fahr.), while it is 37°–40°C (98°–104° Fahr.) in Hanoi. Besides, the climate of this plateau is remarkably even, so that while there is a variation in the daily temperature of over 23°C at certain seasons of the year in the lower plains, here it ranges over no more than 3°–9°C. The average night-time temperature of the Cascade d' Argent in summer is 17° to 21°C. The best time to visit the place is between the middle of May and the middle of September; December, January, and February are tolerable, while in March, April, or early May is the worst time.

The larger part of the journey from Vinh-yên, i.e. 14 km. as far as Pont des Linh, can be made either by automobile (in 40 min.) or carriage (in 1½ hrs.). From Pont des Linh it is 8 km. to the summit, automobiles being available as far as the 300 metre post, whence the pass gets very narrow and the ascent can be done only on horseback (in 2 hrs.) or on foot (in 2¼ hrs.). For the whole distance from Vinh-yên to the summit, rikishas are available if 4 or 5 coolies are employed for each vehicle: *charge* 70 cents per coolie. Coolies carrying parcels charge 30 cents going up, and 20 cents coming down.

Persons intending to make the latter part of the ascent on foot, if in summer, should try to be at Pont des Linh by 6.30 a.m., in order to reach the summit before 9 a.m.

After leaving Vinh-yên, the road keeps on rising steadily as the region traversed becomes more and more mountainous. The hills are mostly bare and the hamlets encountered are few and far between. The real climb begins at the 100 metre post, which is reached after crossing a narrow, rapid stream, the Argent. The summit, Cascade d' Argent, is reached when the 920 metre post is passed. Here stand a sanatorium (Vinh-yên Provincial Sanatorium) and about 13 stone houses, some of which may be rented. Visitors should be provided with warm blankets. At the top there are the post and telegraph office, the forestry office, barracks for troops, a tennis court, and villas of wealthy people. The summit is a plateau, covering a space of 150-400 metres by 800 metres, and commands wide and wonderful views of the neighbouring country. Visitors who are good mountain climbers would doubtless desire to ascend high peaks further N. of the Trident, and also to visit Plateau Défert, which is 9 km. in a straight line from Cascade d' Argent and has an average altitude of over 1,100 metres above sea-level.

Bac-hat (68.6 km.) is the site of the old capital of the kingdom under the Hông-bang Dynasty.

The town, 2 km. from the station, is a port on the Red River and a busy market for timber brought down from the upper course of the river. It contains a post and telegraph office.

Viétri (72.5 km., in 2½ hrs.) lies at the junction of the River Claire with the Red River, and slightly below the point where another tributary, the River Noire, empties itself into the main stream. The port is the starting point of the three steam-launch services, to Tuyên-quang via the River Claire, to Cho-bo via the River Noire, and to Son-tay via the Red River.

It is a flourishing **sericulture** centre, while the rivers in its neighbourhood abound in carp and other fish, giving rise to a busy fishing industry.

(1) Viétri—Tuyên-quang Line (ports of call Lemy, Phu-doan, Dia): Ships leave Viétri at 5 a.m. Tuesdays, Thursdays, and Saturdays, and Tuyên-quang at 11 a.m. on Mondays, Wednesdays, and Fridays.

(2) Viétri—Cho-bo Line: Ships leave Viétri at 6 a.m. on Tuesday and Sundays.

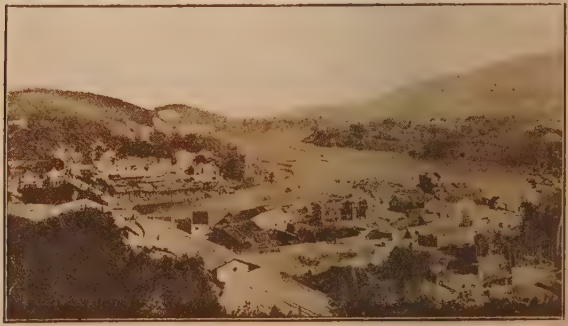
(3) Viétri—Son-tay Line: Ships leave either Viétri or Son-tay on Tuesdays, Wednesdays, Thursdays, Saturdays, and Sundays.

Phu-tho (99 km. in 3¼ hrs.), also known as Lang-mé, is an important trading centre, being situated near the junction of the River Noire with the Red River. It contains a large market, post and telegraph office, garrison, custom-house, etc. In 1906, it was created the capital of Phu-tho Province. A good carriage-road leads to Tuyên-quang (58 km., in about 5 hrs.).

Yen-bay (155.3 km., in 5 hrs.), the capital of the province of the same name, is located on the left bank of the Red River, being the sole trading centre of this region. It is a growing place, the trade consisting mainly in timber, bamboos; horses, and cattle. The river at this point is 300 metres wide at ordinary times, and 325 metres when flooded.

Lao-kay (296 km., in 11 hrs.). *Hotel:* Hôtel du Commerce, beds 22, room $2, breakfast, 40 cents, midday and evening meals, $1.60 each.

This is the capital city of the province and situated at the point where the River Nam-ti flows into the Red River. Surrounded by mountains on all sides it is a picturesque spot. The city is separated from Ho-kéou, which is within the Chinese boundary, only by the Nam-ti, the two towns being connected by a bridge across that river. What is known as Lao-kay comprises the three towns of Lao-kay, Pho-moi, and Côc-leu; it is the only large city on the N.W. frontier of Indo-China. It has some of the equipments of a modern city.



General View of Laokay and Ho-kéou.

Lao-kay, owing to its strategic position as an important station on the route between Yun-nan and Tongking, has always been coveted by the Chinese. In 1855, a number of Cantonese came over and settled here. Later, remnants of the Taiping rebels found an asylum at this place, and, organizing themselves into a band of semi-bandits, became known as the Black Flags. These the Annamese government found it impossible to put down by force and finally were obliged to purchase their good will by giving them the privilege of levying transit duties on navigation on the upper course of the Red River. They were at last subjugated by a French force under Major Moussion, at the request of the Annamese government (1886).

The province of Lao-kay is divided into two parts by the Red River, which flows through it. It contains an area of 5,800 sq. km., of which the cultivable part is only about 200 sq. km., the rest being covered either by timber forests or thick brush-wood. The population amounts only to 28,000, of which Taï tribes number 10,000, Miaos 7,000, Yaos 6,000, and Annamese 2,000.

Ho-kéou (297 km.) is a Chinese town, lying at the junction of the Nam-ti with the Red River, and connected by a bridge with Lao-kay. The town was opened in 1895 to trade with Indo-China and contains the French consulate, Chinese post and telegraph office, and custom-house.

Dragon Noir (461.5 km.), called by the Chinese, Hei-long-tan, is 6 km. from Mong-tseu, a great centre of trade in this part of China. People visiting Mong-tseu find it convenient to get off at Dragon Noir, proceeding thence by palanquin, chair, or horse. The train after leaving Mong-tseu crosses four bridges (viaducs) in a distance of 8 km.

Pi-ché-tchai (474.6 km.) is at an altitude of 1,356 metres, and at a distance of 10 km. from Mong-tseu. People intending to visit the latter city also get off here.

Mong-tseu (6 km. from Dragon Noir and 10 km. from Pi-ché-tchai). *Hotel:* Mong-tseu Hôtel, beds 15, room $1.50, breakfast 40–80 cents, midday and evening meals, $1.50 each.

Mong-tseu is the chief town of a district in Lin-ngan Prefecture with a population of 16,000. It is situated at an altitude of 1,370 metres. In 1890, it was opened to trade with French Indo-China, in accordance with the provisions of the Franco-Chinese Supplementary Convention of June 29, 1887.

The European quarter is located to the E. of the Chinese city and outside the city walls. It is expanding towards Petit-lac de l' Université. The Chinese town is surrounded by an elliptical wall, which is pierced by four gates. The streets are narrow and paved with stones, while the houses are small and unattractive. A fair is held on stated days of the month, attended by a multitude of people from the neighbourhood, wearing all sorts of costumes.

Public Buildings: French Consulate, Chinese Custom-House, French Hospital, Banque de l' Indo-Chine, Roman Catholic Church, French Post-Office, Chinese Post-Office:

Temple,—Temple de Confucius (Wen-miao), Pagoda du Dieu de la Guerre (Won-miao), Pagoda du Dieu des Murs et Fossées (Tcheng-Houang-miao), Pagoda du Dieu du Sol (Tou-Tchou-miao), etc.

A-mi-tchéou (517.5 km.), the chief town of a district in Lin-ngan Prefecture, is at an altitude of 1,063 metres and has a popula-

tion of 4,500. On fair days the town shows a lively appearance. Here is a French hospital and the Hotel Prosper Tcheng.

Yun-nan City (761 km.).

Arrival. After about 10 hours' run through a wild mountainous country, the train arrives at the N. terminus of the Yun-nan Railway, i.e. at Faubourg du Sud, a S. section, outside the walls, of Yun-nan City.

Conveyances: palanquins usually borne by two men, *tariff*, 60–70 cents each per day; horses, 50–70 cents per day.

Hotels: Hôtel de la Gare (3 min. walk from Station), beds 18 room, $1–2, breakfast, 50 cents, midday and evening meals, $1,50 each; American plan, $4–5 per diem. Hôtel Terminus (10 min. walk from Station),—American plan $4–5 per diem.

General Description of the City. ***Yun-nan-fu*** 雲南府 (probably the Yachi—in Carajan—of Marco Polo), the capital of the province of Yun-nan, is in 25°6′ N. lat. and 102°52′ E. long., and 5 km. N.E. of a large lake called Tien-tche-hou. It is built on a high plain, 1,900 metres above the sea-level. From the city highways radiate in various directions, furnishing busy routes of traffic, and three or four streets in the city which constitute the business quarter always present a lively scene. The city was thrown open to foreign trade in 1908, in accordance with the supplementary convention to the Franco-Chinese treaty of 1887. The inner city is surrounded by walls, which are pierced by six gates: East Gate (Nien-Ho-men), Small East Gate (Fou-Tso-men), North Gate (Kong-Tchen-men), West Gate (Pao-Tcheng-men), Small West Gate (Kang-Feou-men), and South Gate (Li-Tcheng-men). The chief products of this region are rice and other cereals, bamboos, ebony, salt, skins, jade, copper, iron, cattle, sheep, etc.

Public Buildings: Provincial Governor's Office (Ya-men du Gouverneur du Yun-nan), Vice-Governor's Office (Ya-men du Vice-roi du Yun-nan), Prefectural Office (Ya-men du Préfet), Sub-Prefectural Office (Ya-men du sous-Préfet), Literature Encouragement Hall (Pa-

THE MARKET OUTSIDE THE WALL OF YUN-NAN-FU

villon de la Litérature Developpée), Court of Justice (Ya-men du Jugement Provincial), Finance Office (Ya-men du Trésorier), Mining Office (Bureau des Mines), Garrison, High School, Normal School; *Foreign Consulates* — French Consulate (in Chouei-tsing-kong), British Consulate (in Tong-men-tsehai-kai-tseou); *Post-Offices*: French Post-Office, Chinese Post and Telegraph Office (in Po-ko-soeu-kai); telegraph fee, 20 cents per word throughout Yun-nan and 45 cents per word to places in Tongking.

Places of Interest: ***S. Section of the City—Long-wang-miao*** 龍王廟 ('Temple of the Dragon King'), where the god of rivers is worshipped, in order that the land may escape the ravages of floods, Sai-tien-tshe-miao (Tomb of Omar, a great minister of the Yuan Dynasty), at Wo-eul-to, 2½ km. to the S.E. from the S. wall of the city.

Middle Section of the City—Wou-houa-chan 五華山 (La Colline des Cinq Fleurs), is an elevation in the centre of the city, from the summit of which may be seen the city walls, the streets inside and outside the walls, and the country surrounding the city. Round about this hill are found government offices and temples, and other public buildings.

Wou-houa-sseu 五華寺 is a general name for the three celebrated temples of Houa-kouo-sseu, Kin-chan-sseu, Miao-fa-ngan, which are situated near Wou-houa Hill. Their buildings date back to the Yuan Dynasty (13th century).

Wen-miao 文廟 or Temple of Literature (Temple de la Culture Littéraire) is situated to the W. of Wou-houa Hill. It comprises three buildings—Kouo-tseu-kien (literally, Gymnasium), Ming-louen-tang (Hall of Scholars), and Ta-tcheng-tien (Temple of Confucius).

Eastern Section of the City—Ta-to-sseu 鐸大寺 (literally, Great Virtue Temple) is on an eminence, whence may be had a complete view of the city.

Kin-nieou-tseu 金牛寺 (literally, Golden Bull Temple) is outside the walls. Here are worshipped the gods of the earth, hearth, and harvest.

Northern Section of the City—Yuan-tong-sseu 岩堂寺, at Kouen-ming-hien and near the Small East Gate. The gate of the temple and the pillars of the main building are elaborately carved.

Western Section of the City—Yu-long-tseu 玉龍寺 or Temple of the Dragon of Jade (Temple du Dragon de Jade) is situated near Kieou-long-tche (Pond of Nine Dragons), built in about the seventeenth century. In its first-hall are five dragon-kings (Long-wang). In the back of it is Niang-niang-miao (Temple des Dames), where are installed two goddesses of sight and of children (Yen-kouang-nai-nai and Tseu-souen-nai-nai).

Tcheng-houang-miao 城隍廟 (Temple du Dieu de la Cité) is a temple consecrated to the city god, who is believed to guard the welfare of the city people and punish or reward the spirits of the dead according to their merits. For this reason, the court of the city is located within this temple.

Route XIII. Hanoi—Lang-son—Nam-quan, by rail (167 km.).

The railway from Hanoi to Nam-quan, on the boundary of the Kwang-si Province of China, is known as the Kwang-si Railway. It takes in en route the three important towns of Bac-ninh, Phu-lang-thuong, and Lang-son, all provincial capitals. Two through trains are operated daily from each end.

Hanoi to	Distance	Fare, 1st cl.	Fare, 2nd cl.	Hanoi to	Distance	Fare, 1st cl.	Fare, 2nd cl.
	km.	$	$		km.	$	$
Gia-lam	6	0.42	0.21	Lang-nac ...	119	8.33	4.17
Yen-viên	11	0.77	0.39	Lang-son ...	148	10.36	5.18
Bac-ninh	29	2 03	1.02	Dong-dang ...	163	11.41	5.71
Thi-câu	33	2.31	1.16	Nam-quan ...	167	11.69	5.85
Phu-lang-thuong	49	3.43	1.72				

Yen-viên (10.9 km., see P. 149). To the left runs the railway to Yun-nan and to the right at a distance of about 800 metres is the Canal des Rapides. This canal connects the Red River with the Thai-binh and is intended to reduce the distance between Hanoi and Hai-phong by nearly one-half of the usual river route. Unfortunately the canal is practically useless, since it is not navigable except when the rivers are flooded, and even then only with difficulty, on account of the too rapid flow of the waters.

Bac-ninh (29 km. in 1 hr.), the capital of the province of the same name, is an important centre of trade, having a population of 10,000. Not only are the products of the immediate neighbourhood brought here for distribution, but also those from Kwang-si Province, China, via Cao-bang and Lang-son. In the city is a citadel (3 km. in circumference), in the Vauban style, constructed by French engineers at the request of the King of Annam, under the Lê Dynasty.

Bac-ninh is a local centre of the Roman Catholic Mission, under the supervision of the Spanish bishop of Tongking. There are two well-known embroidery houses established here, which keep many skilful hands busily at work.

Thi-câu (33 km.) is the place where people usually alight when going to Dap-câu.

Dap-câu (see P. 137), 1 km. from Thi-câu Station, and situated on the right bank of the Song Câu, is a small manufacturing town with bright prospects of growth as a trading centre. It is also a centre of the sericulture industry. The place enjoys many communication facilities, on account of its connection by means of rivers with Thai-nguyên, Sept-Pagodes, Hai-phong, Hai-duong, and Phu-lang-thuong.

Hotels: The two houses, Gouguenheim and Bourrin, are hotels besides having restaurants and cafés, room, $2 and upward, breakfast 25–30 cents, midday and evening meals, $1.50–1.70 each.

Phu-lang-thuong (49 km. in about 2 hrs.), on the left bank of the Song Thuong, is the capital of Bac-giang Province and a modern town with broad avenues laid out in all directions and lined by attractive European houses. The town grew up in connection with a military railway to Lang-son, which made this its starting point. This military railway was the forerunner of the present Hanoi—Nam-quan Railway, in which the earlier line was merged. The town contains a post and telegraph office, custom-house, garrison, and a branch office of the Public Works Department at Hanoi. Between Phu-lang-thuong and Hai-phong is a stated steamer service. *Hotel*, Vve. Darnaud.

There is not much to be seen at Phu-lang-thuong, it being such a new and modern place. The town may, however, be made the base of an interesting expedition into Yen-thê, which is inhabited by wild tribes. The latter is a mountainous region, covered by forests and brushwood, certain parts of which are still impenetrable to civilized man. About 24 km. of the way, i.e. as far as Nha-nam, can be done either by carriage or on horseback. Nha-nam is the administrative centre of this wild region, but, as there are no hotels here, the tourist should get food made up at Phu-lang-thuong for the two or three days to be spent on the expedition. Otherwise it is better to take as little luggage as possible, and coolies should be chosen for their strong limbs. For lodging at Nha-nam, apply to the French authorities of the place, who are sure to arrange for some shelter for a night or two.

From **Nha-nam**, it is a three days' journey—by horse, rikisha, canoe, chair, or palanquin—1st day to Thai-nguyên (about 40 km.; see P. 150), and 2nd day to Cho moi (40 km.; see P. 150), and 3rd day to Bac-kan (35 km.; see P. 150). The easiest way to reach Bac-kan from Hanoi is to take train on the Yun-nan Line as far as Dông-anh and get off there (see P. 150).

Lang-nac (119 km. in 4½ hrs.) is a station in a wild, hilly neighbourhood, much visited by people in pursuit of wild game. The region just passed through, known as Cai-kinh, is also famous for wild animals.

Between Kep (68 km. from Hanoi) and Than-moi (110 km. from Hanoi), the railway traverses a wild region, measuring 40 km. from E. to W. and 50 km. from N. to S., and consisting of huge rocky hills,—the region known as Cai-kinh. Here, between 1890 and 1896, a powerful band of robbers, with Hoang-hoa-tham as their chief, established themselves and, sheltered by these fastnesses, these bandits carried on a fierce guerilla warfare with the French troops. The hills, which are mostly more than 1,000 metres high, stand closely grouped together, while the valleys between them are so narrow and deep that, excepting at certain rare points, they are impassable. The region is sure to prove exciting to people fond of adventure. The difficulties of passage through this region are said to be not unlike those to be met with in the Alps or the Pyrenees.

The Lang-nac region, which lies to the N. of the Cai-kinh, is noted for the presence of many grass and brush-covered, low, round hills (100–500 metres), interspersed here and there with timber forests.

The wild animals in these two regions include tigers, leopards, guepards, foxes, brown bears, deer, roe-deer, axis, and hares; among birds there are gold and silver pheasants, partridges, quails, geese,

wild-ducks, mandarin ducks, storks, etc. Owing to the risks from wild animals and the difficulties of passage through these regions, great precautions have to be taken, and many preparations (with the aid of competent advisers) have to be made before venturing there on a hunting expedition.

Lang-son (148 km. in 5⅔ hrs.), the capital of the province of the same name and by far the most important city on the N.E. frontier, is situated on the right bank of the Song Ki-kong, in a plain surrounded by pretty mamelons and picturesque rocky hills. The town is chiefly interesting as a starting point for a visit to the Cao-bang regions (a mountain district in E. Tongking) and to Long-tchéou, an important Chinese city on the other side of the frontier. The town contains a post and telegraph office and a European grocery store.

Mountain Tribes of the Region of Cao-bang.

Visit to Cao-bang. In order to visit Cao-bang, the first part of the journey, as far as Dong-dang (163 km. from Hanoi and reached in 35 min. from Lang-son) is done by rail. From Dong-dang the path leads upward in the main along the course of the Song Ki-kong. Usually it takes four days to reach Cao-bang: 1st day, Lang-son to Dong-dang by rail and from Dong-dang by carriage (good road—17 km.) to Na-cham; 2nd day, Na-cham to That-khê (24 km.) on horseback; 3rd day, That-khê to Dong-khê (24 km.), by carriage; 4th day, Dong-khê to Cao-bang, via Nam-hang (47 km.), by carriage (good road between That-khê and Cao-bang.

The regions passed on this journey are all mountainous, and the hills, owing to the difference in their geological structure present two different aspects. The hills formed mostly of limestones, present broken, rugged shapes, which, in conjunction with the beautiful green woods covering the summits of many of them, make them exceedingly picturesque. It is among these mountains that there occur circular, hollow valleys (cirques), where the clayey under soil has been exposed, offering fertile lands to farmers. These cirques occur at such frequent intervals, that they have been compared to the cells of a bee-hive. On the other hand there are hills (mamelons), consisting of argillaceous schist (schiste-argileux), which are uniformly hemispherical, with gradual, undulating slopes. Through the clayey soil, sometimes on hillsides, rivers have cut out channels—their beds—on a part of which farmers plant rice, or, where they have succeeded in leading any waters higher up, rice is planted in terraces on the hillsides. Far off to the W. of these regions is the Pia-Ouac range of mountains, many of the peaks of which are over 2,000 metres high. This distant view offers a pleasing contrast to the regions we have been describing, where no hill rises higher than 1,000 metres and the plain where Cao-bang stands is only 190 metres above the sea-level.

Cao-bang (146 km. from Lang-son) is the capital of Cao-bang Province and contains a custom-house, post and telegraph office, etc. It is a local centre of considerable importance, but suffers from difficulties of communication. There is a good prospect for mining and stock-farming. *Hotel*—Camus.

Ky-lua (150 km.), an insignificant station, 2 km. from Lang-son, is chiefly known on account of several grottos which are found in its neighbourhood. These may be easily entered and in them are numerous Buddhist images. The best known among them is the Pagode de Tam-thanh (literally, Temple of Three Voices), so named on account of the three different echoes which will be reflected from three chambers, containing images, in response to one and the same voice of call addressed to them.

Nam-quan (167 km. in about 8 hrs.), the terminus of the Kwang-si Railway (Hanoi–Lang-son–Nam-quan), lies on the Chinese frontier and is interesting from its proximity to China. The town itself is of practically no account. The station is close to the so-called 'China Gate,' which forms the entrance to Chinese territory. The entrance through the gate is in the form of a large arch, and on both sides of the gate there extend thick walls, running in each case to a distance of several scores of kilometres. Above the arched entrance of the gate, there hangs a large tablet containing a figure of Buddha; beyond the gate there are numerous Chinese villages. The daily train from Lang-son arrives at Nam-quan Station in the morning and stops for about an hour, before it starts again for Lang-son. Travellers, intending to spend a day at this place, should come provided with luncheon, so that they may take the evening train for Lang-son. Those intending to cross the frontier and visit the well-known city of Long-tchéou, in Kwang-si Province, should come provided with passports.

Route XIV. Hanoi–Ninh-binh–Vinh–Ben-thuy,

by rail (326 km.).

Like the Kwang-si Railway, this line is managed directly by the Government of Indo-China. The train which starts from Hanoi crosses the Annam frontier, soon after passing through Ninh-binh; then, passing through Vinh, it reaches the present terminus, Ben-thuy. In the course of this trip one traverses the six provinces of Ha-dông, Ha-nam, Nam-dinh, Ninh-binh (these four in Tongking), Thanh-hoa, and Nghê-an (these two in Annam). All the capitals of these provinces, except that of Ha-dông, are on the railway line. Between Hanoi and Vinh one through passenger train is run daily each way, (about 11 hrs.), while there are one mixed train daily between Hanoi and Ninh-binh (3½ hrs.) and the same between Thanh-hoa and Vinh.

This line runs for the most part almost due S. In the first portion, as far as Phu-ly, the view is monotonous, consisting almost exclusively of the rice-fields of delta plains, which present one immense green or yellowish brown stretch, according to seasons, but in the second part mountains come into view, and soon one finds that one is running on between mountains and a narrow belt of coastal plains, sometimes in sight of the blue sea on the one hand and high hills on the other.

Hanoi to	Distance	Fare, 1st cl.	Fare, 2nd cl.	Hanoi to	Distance	Fare, 1st cl.	Fare, 2nd cl.
	km.	$	$		km.	$	$
Phu-ly	56	3.92	1.96	Thanh-hoa ...	175	12.25	6.13
Nam-dinh ...	87	6.09	3.05	Hoang-mai ...	246	17.22	8.61
Ninh binh ...	114	7 98	3.99	Phu-dien ...	284	19.88	9.94
Dong-giao ...	134	9.38	4.69	Vinh	321	22.47	11.24
Bim-son	142	9.94	4.97	Ben-thuy ...	326	22.82	11.41

Phu-ly (56 km. in about 2 hrs.), the capital of the province of Ha-nam, is located at the junction of the Phu-ly Canal with the River Song-Day. Soon after leaving the town, there appear to the right the picturesque Day Mountains, to break the monotony of the endless delta plains. The mountains are well-wooded and the valleys between them are said to contain lands of great fertility. This mountainous region is rich in wild game, while between it and Phu-ly (8 km.) there is a good carriage road. In getting up hunting expeditions, great care should be exercised in view of the presence of tigers and leopards.

Nam-dinh (87 km. in 2¾ hrs.). *Hotels:* Two houses, Baron and Baudon; breakfast 25–30 cents, midday and evening meals, $1.50–1.70 each; room $2–2.50.

Rikishas available: 6 cents for a short distance, 10 cents for a ride of over ½ hr., 15 cents per hr. in the day time (20 cents per hr. at night), 50 cents per half day, $1 per day.

Nam-dinh, the capital of the province of the same name, lies on the N. bank of the Canal de Nam-dinh (Canal Courbe), which unites the Red River (Fleuve Rouge) with the Lach Day. It is a large city, with wide, stone-paved streets and houses of brick; a market place and several manufactories are in the suburbs. Pop. 45,000. The city is in the midst of an extensive delta plain, with all its monotony, and it can boast in the line of natural scenery little that is picturesque and interesting.

RETURNING FROM TIGER-HUNTING, THAN-HOA.

Ninh-binh (114 km. in 3⅔ hrs.), the capital of Ninh-binh Province, lies on the right bank of the Lach Day and contains a large market, custom-house, post and telegraph office, and schools, as well as government offices. Around the city are deep valleys, containing numerous singularly-shaped rocks, which make the view quite interesting. The scenery has sometimes been compared to that of Along Bay (Pp. 135–136).

Dong-giao (134 km.) is chiefly interesting on account of the picturesque hills in its neighbourhood, which moreover abound in game. This little town lies close to a spur of the Annamese mountains, in the midst of a large number of small limestone hills (50–100 metres), all much broken and of singular shape. Those intending to visit these hills on hunting expeditions are advised to make

ample preparations (provisions, blankets, tents, horses, servants, etc.) at Ninh-binh, and to alight either here or at Cho-ganh (12 km. from Ninh-binh).

Bim-son (142 km.) is a small station in Annam.—We will continue in this connection describing towns of Annam which are on the line of railway, as this is the simplest plan, although it will be going out of Tongking.

Pho-cat (about 16 km. of good carriage road from Bim-son) is the original seat of the present royal house—Nguyên—of Annam. Here are the royal tombs and the old citadel now turned into a family temple for the royal house. On the premises are many lakes containing fish, which, being carefully preserved from harm, are so tame that they come in shoals towards visitors in order to obtain food. In the neighbourhood are extensive virgin forests. Visitors may find shelter at an old forestry office.

Thanh-hoa (175 km. in 5½ hrs.), the capital of the province of the same name, is chiefly interesting as a starting place for inland trips into the mountainous Laos. There are two hotels in the town. The trip can be made only on horse-back or on foot, except about 50 km. of river route (the Song Ma), which can be done in a small, flat-bottomed boat. The upper course of the river consists of rapids and cascades, making it impossible even for a timber-raft to come down safely. In these primeval forests tigers abound, which are the terror of the inhabitants. Sometimes a whole village has been known to remove its seat to a distant locality in order to escape from the ravages of those animals.

Sam-son (19 km. from Thanh-hoa) is noted for its beautiful sea-beach, much resorted to in summer by Europeans.

Vinh (321 km. in 11 hrs.), the capital of the province of Nghê-an, lies on the E. bank of the Canal de Vinh, which connects the two rivers, Song Ca and Song Coum. This is the most important town in N. Annam, being a flourishing market for the products of Laos, which are mostly exported by railway to Haiphong and Nam-dinh in Tongking. The town contains a customhouse, post and telegraph office, as well as government offices.

The neighbourhood abounds in game, and hunting expeditions may be made from here by taking a sampan up the Song Ca, or by taking rail and getting off at either Hoang-mai (75 km. from Vinh) or at Phu-dien (37 km. from Vinh). Preparations should be made at Vinh.

Ben-thuy (326 km.), lying on the Song Ca, is the port of Vinh City and the S. terminus of the railway from Hanoi. The port is connected with the city also by a good road (planted with trees) and by a canal, available for sampans.

Route XV. Northern Annam—particularly Tourane, Hué, and Fai-foo.

A part of Northern Annam (i.e. towns along the Hanoi–Vinh Railway) has already been described under Route XIV. (see Pp. 160-162). We will confine ourselves in this section to Tourane, Hué, Fai-foo, and their environs. The first two of these towns are connected by railway, the line starting at Tourane, taking in Hué and Quang-tri, and reaching Dong-ha, 175 km. N. of Tourane. Between Tourane and Fai-foo, there are the highways and local coasting steamer services, but the chief means of communication with the more distant towns to the N. and S. of Tourane is a line of steamers between Saigon and Hai-phong, operated by the Messageries

The Marble Grottos, Tourane.

Maritimes Co. The steamers leave once a week from each end and call at Tourane (and also at other ports like Cam-ranh in S. Annam).

Tourane City.

Arrival. On arrival at the port of Tourane, passengers will be taken ashore by a M.M. Co.'s steam-launch. But, as this can only accommodate about fifteen passengers and never conveys luggage, it is often found more convenient for a party of three or four to hire a sampan (15 cents per mile for each passenger) and be taken shore together with their luggage (which will be conveyed to the hotel). **Rikishas:** 8 cents for a short distance, 25 cents per hr. and 20 cents per each additional hour.

Hotels: Hôtel Morin (Tourane Hôtel); Warkin Hôtel.

General Description. Tourane is the treaty port (concession française) of Annam and is important as being the only one of the

kind between Saigon and Hai-phong. The port lies on the left bank of the Canal Song-Han, which empties its waters into the bay of Tourane. The products of the Quang-nam regions first find their way into Fai-foo and thence to Tourane, whence they are exported to France, Hongkong, Singapore, etc. Pop. 9,000 (including 400 French).

The port of Tourane is 8 metres deep and is protected from the open sea by a breakwater, 1 km. in length. Between the port and Tourane Station of the Tourane–Hué Railway, there is a short connecting line of 2 km. Not far from the custom-house and the tennis club, there is the small Tourane Park, which contains many interesting art objects, which were excavated from the remains of Tra-khieu and My-son, but are kept in bad repair.

Public Buildings: Office of the Resident-Superior, Military Hospital, Custom-House, Finance Office, Post and Telegraph Office, Municipal Office, Public Market, Banque de l'Indo-Chine (branch of); M.M. Co.'s Office, Chargeurs Réunis Co. (agents of).

Clubs: There is a club formed by Europeans (monthly fee, $10); Tennis Club (monthly fee, $1.50); ***Railway Stations:*** Tourane Central, Tourane Marché —the two being 5 km. distant from each other.

Railway: Tourane is at present the S. terminus of a line which runs towards the N., taking in Hué and Quang-tri, and ending at Dong-ha (175 km. in about 6 hrs.). This railway is intended to connect on the one hand with the line from Hanoi, now ending at Vinh, and on the other with the line from Saigon, now ending at Nha-trang.

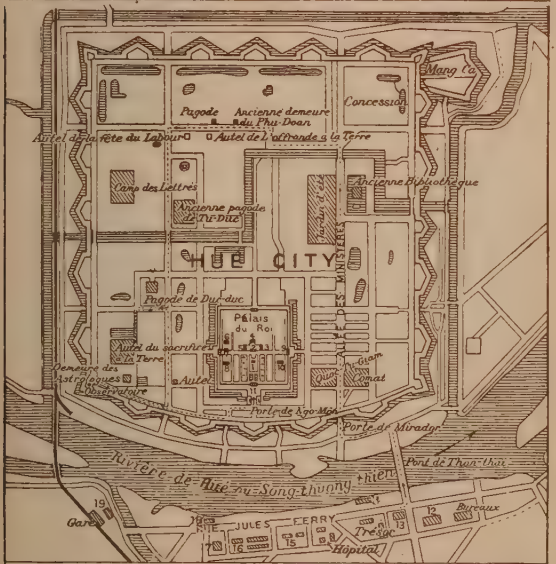
Sights of Interest. ***Tien-cha Peninsula,***—reached in 45 min. by sampan; the place is rich in game, including roe-deer (chevreuil) and brown-coloured monkeys. The skins of the latter are very highly prized.

Col des Nuages (Pass of Clouds) lies 31 km. to the N. of Tourane and is reached by the route Mandarine; automobile, carriage, or rikisha available. Of the 31 km., the last 13 are uphill, the summit being at an altitude of 500 metres. The view of the city and bay of Tourane from the top is indescribably beautiful. If time permits, visitors are advised to return to Tourane by a round-about way via Lang-co. There used to be an automobile service taking in this whole trip, but it is now unfortunately discontinued.

The Marble Grottos (Grottes de Marbre) on the seacoast 18 km. S. of Tourane. There used to be a light railway service to these grottos, but it is now discontinued; only sampans are available. The grottos contain many interesting carved images of Buddha, while the natural shapes of the rocks themselves are very varied and most picturesque.

Thua-luu (54 km. from Tourane) is a station nearly midway between Tourane and Hué and 20 minutes' walk (chair, palanquin, and horse available) from the village of Thua-luu. The latter stands in the midst of forests, on an elevation 200 metres high. It

is a large village, which before the completion of the railway used to be an important station town (called *tram* by the Annamese, a place where travellers took rest and changed coolies, etc.) on the Route Mandarine between Hué and Tourane. Round about Thua-luu there are extensive timber forests, which are being exploited by means of modern methods. The cut-timber is brought out from the forests by new appliances to a large saw-mill, worked by electricity of 220 horse-power, generated by water power. The place where the mill stands commands an excellent view of the bay of Chu-moi.



1 Thai-Hoa — 2 Dai-Cung-Mon (Porte dorée) — 3 Salle à manger — 4 Cou-Chanh — 5 Salon 6 Musée — 7 Phung-Thien ou pagode dédiée au culte des Empereurs Gia-Long, Ming-Mang, Thieu-Tri et Tu-Duc — 8 Thé-Miéu et Hung-Miéu — 9 Porte de Noi-Vu — 10 Pagode des ancêtres Trieu-Miéu et Thai-Miéu — 11 Porte d'entrée — 12 Résidence supérieure — 13 Hôtel Morin — 14 Travaux publics 15 Préfecture annamite — 16 Collège du Quoc-Hoc — 17 Résidence du chef de Province — 18 Bureaux de la Résidence — 19 Hôtel de la gare.

Hué City (107 km. from Tourane).

Arrival. Hué City is reached from Tourane in 4 to 4½ hrs.—*fare*, $7.49 (1st cl.); $3.75 (2nd cl.); two trains daily each way. One of these trains runs to Dong-ha, the present N. terminus, taking in on the way the town of Quang-tri. Between the station and the city, rikishas are always available; carriages from the hotel will be in waiting, if notified beforehand.

Hotels: Morin Frères, Rue Jules-Ferry; Co-mot, Place de la Gare; these are at the same time restaurants and cafés.

General Description. The city of Hué lies on both banks of the River Hué, 12 km. from the sea, occupying an almost central position in the long strip of territory we call Annam. The city is surrounded by hills on three sides, with a plain on the side towards the sea.

Hué is the capital of Annam and the seat of the royal family. The native city is surrounded by walls, while the French quarter lies outside the walls, being further separated by a river, and here are the French government offices, hotels, the railway station, and French shops. In the centre of the native city is the royal palace, surrounding which are the residences of high dignitaries and the government offices, this inner quarter being separated from the rest by moats. Between the moats and the walls lie the trading quarters, including the market place, and here, besides the natives, there live many Chinese.

In the matter of trade and industry, Hué has but little to boast of. Its chief attractions are the remains connected with the royal dynasty, in particular the royal tombs. From an artistic and architectural point of view, these tombs are regarded as superior even to the Imperial tombs of China of the Ming dynasty. Pop. 65,000, of whom 600 are Europeans.

History. Hué became the royal capital of Annam at the end of the 17th century. The original walls were torn down during the reign of King Gia-long and the present walls were completed in the year 1804, by the help of French officers, who assisted in the restoration of the kingdom.

Public Buildings. Residence of the Resident-Superior (Résidence Supérieure); Public Works Bureau (Travaux Publics); Central Public Warehouse; Hospital; Quoc-hoc Technical School.

Shops. *Book-Stores:* Morin Frères, Rue Jules-Ferry; Hung-thai; Rue Paul-Bert. *Silk and Porcelain Shops:* Bo-Vinh, Rue de Gia-hoi; Cong-hung, Rue Paul-Bert; Hung-thai, Rue de Gia-hoi; La-thien-thai, Rue de Gia-hoi; Lien-ky, Rue Paul-Bert; Tuong-hung, Rue de Gia-hoi.

Sights of Interest: ***Tombs of Annamese Kings.***—These royal tombs are found at different places along the River Hué and to visit all of them would require two days: 1st day, visit to Tu-duc, Dong-khan, and Thieu-tri; 2nd day, to Gia-long and Minh-mang, which are more distant from the city than the other three. Permits to enter these tombs may be obtained from the Resident-Superior, who will send a mandarin to act as guide. Visitors on entering the tombs should remember that there are certain gates through which nobody, except the king, may enter. All these tombs have certain uniform features, such as the following:

(a) Each tomb is either surrounded by, or faces, a pond.

(b) In the centre is a stone-paved court, decorated with pairs of stone elephants and stone horses and also with several statues of mandarins.

(c) This court leads to the front of a sheltering structure, under which stands the monument of the dead king, which, as a rule, was built by his successor.

(d) There is a temple in which is installed the image of the dead king. In front of it is a monastery, which contains his treasures. In olden times, the keeper of this monastery was chosen from among the king's favourite mistresses.

(e) The remains of the king are buried beneath a mound, enclosed by stone walls with bronze doors.

Sights of the Castle—Crossing Pont de Than-thai from Rue Jules-Ferry and turning first to the left and then to the right down the first main street, one comes to the gate Mirador, which is the entrance of the first wall. This outermost wall was built in 1804 by King Gia-long assisted by French officers. It is a brick structure

Decorative Gateway to the 'Palais du Comat,' Huê.

10 km. long and 12 metres thick, designed after the Vauban style. The gate leads to Allée des Ministères. Walking along this straight thoroughfare one sees on the right Comat Palace and on the left a row of buildings, which is called the Quoc-tu-giam, a school intended for the education of the sons and daughters of mandarins. Behind it stands a library. Comat Palace and the official buildings of Annam, standing around it, are thoroughly modern in their structure. In the palace, the Résident Supérieur of France meets the ministers of the Annamese government twice a week to discuss affairs of state. The Délégations de la Justices et de l'Intérieur are also located in this region. There is also a public museum containing specimens of Annamese faunal and floral products of all kinds.

Proceeding along Allée des Ministères, one sees the walls of the residences of ministers and minor officials. The houses are almost hidden by a screen of banana-trees; the tops of the roofs alone appearing here and there among the branches of the trees. A few minutes' walk farther on and one observes on the left a long stretch of walls. It is Jardin d'Eté, a spacious garden, where the King frequently takes hunting exercise. It is famous for its deer (of a peculiar kind called 'daims') and for the abundance of its feathered denizens, reared with considerable pains for the king's pleasure.

Allée des Ministères ends at the head of a stone bridge shaped like the back of a donkey. Across this bridge, on the inner side of the moat, is the French settlement. Keeping this settlement on the right and walking along the bank of the moat, one sees again the wall of Jardin d'Eté, at the end of which stand two big warehouses, now empty, but formerly used for storing the rice allotted to the king's ministers and various petty officials as their salaries. Here turning to the left, one notices on the right a wide stretch of rice-fields broken here and there by ponds covered with lotus. Along this road there are two buildings which attract attention: one is a temple and the other is the residence of the old ruler of the city. In the rice-fields can be seen two sacrificial altars. In olden times, the king came here each spring to offer prayers for abundant crops. It is said that he himself took a golden plough and taught his people how to farm. As it entailed considerable expense, this custom was gradually dropped, and now the ceremony is kept up by proxy merely for form's sake.

Now turning and recrossing the bridge, one observes on the left the outside wall of the royal palace. Along it are temples, shrines, observation platforms, and other buildings. By following the road leading to the left close by the wall, one comes to the front entrance of the palace. It is a monumental gate, called Ngo-mon, and together with the wall forms the second outer bulwark of the castle.

Sights of the Palace.

Note:—Those who want to visit the palace must first obtain a permit from the Resident-Superior; children, rikisha-men, dogs, and objectionable persons or things are not allowed to enter. Those who want to take Asiatics with them must obtain special permission, which, however, is rarely granted. At the Noi vu Gate, to the N.E. of the palace, one has to show the permit to the guide; thence one will be conducted by a guide. On entering the gate, one sees a long path, to which one must confine one's steps.

(a) Noi-vu Gate.—On the right side, within the gate, is a building in pure European style, which presents a curious contrast to the general view of the Annamese Palace. It is the Trésor Royal.

(b) Trieu-mieu and Thai-mieu.—These two temples stand on the right as one faces the palace; they are the sanctuaries of Annamese ancestral worship. In the middle of the path as one approaches the palace, one sees on the left Thai-hoa and on the right Dai-cung-mon.

(c) Thai-hoa.—This is the audience room of the king. Royal celebrations, national fêtes, and the audience of the Resident-Superior with the king are all held in this room, which is remarkable for its spaciousness and its lofty, lacquered pillars, richly decorated with red and gold. At ordinary times, an empty throne concealed by yellow curtains, stands alone in all its solitary impressiveness. In the court in front of the building stand nine small monuments, which mark the seats of the mandarins, according to their nine respective ranks, whenever public occasions demand their attendance.

(d) Dai-cung-mon.—This is the formal gate leading directly to the inside of the palace. In spite of its rich colouring, it is in

Bronze Urns in the Front Court of the Palace, Hué.

admirable harmony with the rest of the building. In its centre are yellow doors, which are opened only for the king, the resident-superior, and high dignitaries.

(e) Dining Room.—This is on the right side, within the Dai-cung-mon, and is used only when the king invites Europeans to dine with him. All the furniture and utensils used in it are French. They were either presented by each successive resident-superior or brought from Paris in the time of King Dong-khanh.

(f) Can-chanh.—This room faces directly towards Dai-cung-mon and is the most elegant room in the palace. Ordinary audiences are held in this room. Before the dining room mentioned above was built (1910), it had served that room's purpose. At pre-

sent, it is used as a guest room, whenever grand occasions arise and demand its utilization. Its pillars, its walls, its ceiling are all made of the precious lim wood and are either curved or embossed with ivory or shell-works. The room also contains other luxurious works of art. Against its side walls stand six cabinets, in which are stored all the treasures of the royal family. The most noteworthy of them is the royal gold seal, which is said to weigh 18 kg.

(g) Phung-tien and the Museum. — Phung-tien is a temple dedicated to Gia-long (1802–1820), Minh-mang (1820–1840), Thieu-tri (1840-1848), and Tu-duc (1848-1883). This building contains a museum, in which are displayed many rare treasures of each successive king and his consort, collected in 1910. On both sides of the room are hung 23 stone guns of Tu-duc. Among other curious objects of art especially noteworthy are a copper utensil of a queer shape cast by an Annamese artisan in the time of Minh-mang, copper vessels of various sizes, a collection of old coins, and a golden tree (arbre d'or). This last is remarkable for the lavish use of precious materials displayed in its construction. Its branches are made of coral and jade, and its leaves, flowers, and fruits are either of jade or gold or pearl or some other rare gem.

(h) Thê-mieu and Hung-mieu.—In these temples are collected the treasures of King Dong-khanh, arrayed on shelves. In the front court stand rows and rows of large three-legged kettles of bronze, each of which is dedicated to the spirit of a particular king.

Sights in the Environs. ***Tour de Confucius***—(round trip, 10½ km.). Admiring the beautiful scenery along the river, one comes to a luxuriant forest known as Kim-long, which was the site of Hué City until the restoration of the kingdom by Gia-long and is famous for its oranges and areca-nuts (noix d'arec). Going farther down the gentle slope, one reaches the Tour de Confucius, which, despite its name, has nothing to do with the Chinese sage, except that the tower which stands at the top of the stone steps is entirely a Chinese structure, with two large bronze bells. The story goes that King Gia-long in his boyhood met in this region an old woman, who asked him to make it the site of a new capital in the event of his being victorious over his foes and then suddenly disappeared. Later on, when the battle was won and the kingdom restored, the king remembered this incident, and, following the old woman's advice, he built this tower to commemorate his victory.

Lang-tho—(round trip, 10 km., with railway facilities). Here is Bogaert's Lime Factory (l'Usine des Etablissements Bogaert). In 1898 Mr. Bogaert found that the place was rich in limestone, from which hydraulic lime can be made. He immediately established a factory for the purpose. It has since been enlarged and is now making, as by-products, cement-bricks and enamelled tiles.

Gia-hoi—(round trip, 6 km.). By crossing Than-thai Bridge, turning to the right, and crossing Gia-hoi Bridge, one comes to Pagode des Eléphants. On the left of Rue de Gia-hoi is a Chinese

mission building (Pagode des Congrégations Chinoises), which merits inspection from the point of view of its architectural value.

Phu-cam.—If one takes a sampan along this canal, one will find the scenery along its banks quite remarkable. It is also interesting to see the natives of this region living in sampans in all their primitive simplicity.

Quang-tri (55 km. from Hué). This is the capital of the province of the same name and is noted for the farming, including stock-farming, activities of its environs. Corn, beans, coconuts, and other crops are raised by Chinese and exported to Tourane and Hongkong. The town itself contains nothing worth seeing. 13 m. to the N. is Dong-ha, the northern terminal of the line

Fai-foo.

Arrival. Fai-foo can be reached both by land (33 km.) and water from Tourane. Rikisha, stage-coach, and automobile available. In the city itself, the rikisha is the main vehicle of communication: *fare*, 5 cents for a short distance, 15-20 cents per hour, 80 cents—$1 per day.

Hotel: There is only one hotel, run by an Annamese; meals, $1.25 each; the hotel, however, offers no sleeping accommodation for European travellers, who are therefore advised to notify the Résidence before their arrival in the city. In the Résidence there are two rooms set apart for the purpose.

Sights of the City. This city is wholly Chinese in character and has a population of a little over 8,000. It is the capital of Quang-nam Province and, being a river port, is a commercial city. Its chief export articles are silk, cannelle, sugar, and tea.

There are many old temples and other places of Buddhistic origin. There is also a unique bridge, called Nippon-bashi, a bow-shaped, stone structure with pairs of wooden dogs and monkeys standing at both ends.

History. This province had been in the hands of the Cham race from the 3rd to the 14th century, but towards the end of the 14th century it was invaded by Chinese, whose influence dominated it, until Portuguese and Japanese began to come in for trading purposes. According to tradition, the city was built by Japanese. Nippon-bashi, the architectural genius of which reveals its Japanese origin, is cited as the chief evidence in support of this claim. Though this is scarcely credible, it is a fact that there are many traces of Portuguese and Japanese having traded in this region. In 1880, the province was occupied by the French, who have controlled it ever since.

Sights in its Environs. ***Groupe des Iles.*** A group of islands, scattered along Lang-cao River, reached in an hour or two by sampan or launch from Lang-cao or Cua-day. The islands are thinly settled having only a few villages on them. However, they have some beautiful scenery and are especially noted for their edible swallows' nests, which are highly valued, fetching from 1 fr. to 1.50 frs. per 30 grs. according to their quality, the total export value

reaching $20,000 annually. It is believed that on one of the islands there was a summer palace of the Chamese king, which, however, cannot now be located.

Dong-duong (55 km. S. of Tourane) contains many curious remains of Chamese civilization; it can be reached in about an hour by automobile. Visitors are advised to take lunch with them; supper can be had at Fai-foo.

My-son (34 km. N. of Tourane). This is also a place rich in artistic remains of Chamese civilization. The Cirque (a round place in mountains) of My-son is situated about 15 km. from Thu-bon. The city of My-son had long been the capital of Chamese kings. There are 68 buildings worthy of a visit. They are now divided into eight groups under the respective management of eight temples. All these buildings stand picturesquely on a hillside that gently slopes into the valley below and contain many carved works still in a perfect state of preservation. Of these, the works in bas-relief are especially remarkable for the excellence of their execution.

Bong-mieu (116 km. S. of Tourane). This place is 80 km. distant from Fai-foo and has some beautiful mountain scenery. Here, too, is a gold-mine managed by the Compagnie Minière de Bong-mieu, the electric equipment of the plant being renowned as one of the largest in the Chinese and Hindoo mining industry. The total output of gold per annum is somewhere between 400,000 and 500,000 frs.

Duc-bo (12 km. S.E. of Tam-ky) is noted for its zinc-mine and for the dangerous character of the country, where tigers still abound.

Nong-son (65 km. from Tourane) is noted for its coal-mine and as a desirable hunting region. Tigers abound, and it is said that occasionally one can see rhinoceroses. Its coal is of poor quality, fit to be used only in steamers, but it is hoped that with the introduction of modern methods its quality can also be improved. Annual output, 20,000 tons.

Qui-nhon. This place being a port of call of the auxiliary line of the M.M. Co., which is operated between Saigon and Hai-phong, can be reached from both Tourane and Camranh. It is the capital of the province of Binh dinh. Though it was opened as a port of foreign trade by the Franco-Annamese treaty of 1874, its harbour is shallow and exposed. For this reason, it can never become a prosperous port and is important only as the outlet for the products of the central mountainous regions of Annam. The islands of the port are famous for their swallows' nests which are highly prized by the Chinese. Behind the city is an extensive tract of mountain forest, where tigers live.

The chief exports from this port are salt, silk, sugar, beans, and bean-oil. These are exported to Hai-phong, Saigon, Hongkong, Singapore, and Bangkok. This region was formerly the central district of the Champa kingdom, and Qui-nhon was one of the capitals of that time. 18 km. from here is the castle of Binh-dinh.

REFERENCE NUMBER
1 Place de la Cathédrale Statue d' Adran F4
2 Poste et Télégraphe "
3 Recette spéciale "
4 Commissariat de police "
5 Trésor "
6 Bibliothèque "
7 Gendarmerie nationale "
8 Pyrotechnie F5
9 Palais du Gouvernement de Cochin-chine "
10 Hôtel de Ville F4
11 Hôtel du Procureur général "
12 Direction de l'intérieur "
13 Hôtel du Général de brigade "
14 Hôtel continental "
15 Hôtel des Nations "
16 Statue Francis Garnier F5
17 Théâtre Municipal G4
18 Hôtel du Commandant de la Marine "
19 Hôtel de France G5
20 Courtinat (Chambre meublée) "
21 Hôtel Victoria "
22 Hôtel Univers "
23 Consulat de Russie "
24 Justice de Paix "
25 Consulat de Belgique F5
26 Temple Brahmanique "
27 Ancien marché central. Statue de Gambetta G5
28 Immigration "
29 Banque de l'Indochine G6
30 Banque de Hongkong Shanghai "
31 Consulat du Japon "
32 Douanes et Régies G5
33 Messageries Fluviales "
A
B
C
D
1
2
3
4
5
6
7
Arroyo
Pont
RUE FANLAUT
Cimetière Annamique
RUE BARBIER
Marché
Cimetière Européen
RUE PAUL BLANCHY
RUE DE LA MANUFACTURE
RUE DE LA GARE
RUE DE LA GARE DE CHOLON
RUE DE LA GARE DE CHOLON
RUE DE LA GARE DE CHOLON

SAÏGON
Scale 1:25,000
English Mile
Kilometres
1er Pont
Polytechnic
Jardin Botanique
Bassin de Radoub
Sainte Enfance
Arsenal
Hôtel du Directeur de l'Arsenal
Conseil de Guerre
Hôtel du Général de Division
Hôpital militaire
Mess des officiers
Artillerie
Manufacture d'Opium
Hôtel du Commandant de la Marine
Caserne de la Marine
Consulat de Portugal
Statue Rigault Genouilly
Commissariat de police
Consulat du Siam
Ecole des Mécaniciens
Direction du Port de Commerce
Consulat de l'Angleterre
Consulat du Pays Bas
Messageries Maritimes
Consulat de l'Italie
Immigration
Marché de Xom-chiêu
RIVIÈRE DE SAÏGON
QUAI FRANCIS GARNIER
QUAI DE L'ARROYO CHINOIS
QUAI DE L'AMIRAL
RUE DES MIES
RUE DE LA MARINE
BOULEVARD NORODOM
BOULEVARD CHARNER
RUE PIERRE
RUE CATINAT
RUE LAGRANDIÈRE
RUE PAUL BERT
RUE D'ESPAGNE
RUE DURRIEU
RUE FRANCE
RUE DUPERRÉ
RUE DE L'ARROYO CHINOIS
RUE DES MARCHANDS
RUE DES BOURDAIS
RUE DES CHEVAUX
RUE DES MARAIS
RUE DES ABATTOIRS
RUE DES BOUCHERIES

Route XVI. Saigon.

Arrival. Saigon is a port of call of the steamers between Marseilles and Yokohama, operated by the Messageries Maritimes Co., and can be reached by this line either from Hongkong or Singapore. Passengers land at the wharf of the M.M. Co. on the left shore of the mouth of Arroyo Chinois, where their luggage is inspected by the Customs officer. Besides this line, there are steamship services from Hongkong and Singapore once a week or twice in three weeks, operated by English and Chinese marine companies; from Bangkok, Siam, once in two weeks; from Hai-phong once a week. In the city, the chief means of communication are rikisha, and horse-carriages. There is also a steam-tram (see P. 181) that runs to the outside of the city. This can be utilized partly as a means of city traffic. The transfer of luggage can be effected by coolies, who can be found anywhere near the wharf. They speak simple French words and charge very little, although it is advisable that the charge should be agreed upon beforehand, in order to avoid their extortion.

Rikisha: 10 cents for a short distance; 15 cents for return ride of a short distance, including 15 minutes of waiting time. 25 cents per hour; 20 cents for each additional hour; 45 cents for Tour de l'Inspection (sight seeing ride through a beautiful drive around the city); 55 cents for the same with 30 minutes' waiting time; 40 cents to Cholon; 80 cents for return ride to Cholon, including one hour's waiting time; 10 cents extra for a stop or stops on the way exceeding 30 minutes. **Horse carriage:** team and single horse carriages —15–20 cents for a short distance; 20–35 cents for return ride of a short distance, with 15 minutes' waiting time; 30–50 cents per hour; 25–40 cents for each additional hour; $1–1.50 for Tour de l'Inspection; 50–70 cents to Cholon; 90 cents–$1.30 for return ride to Cholon, with one hour's waiting time. **Automobile:** only one or two taxicabs available; a few automobiles for hire, with the charge of $5 per hour, are also to be had.

Botanical Garden, Saigon.

Hotels: Continental Palace Hotel (Pl. 14, F 4), Rue Catinat; (90 beds) $7–11 a day (American plan); $12–20 for a room with two beds; 75 cents for breakfast; $2 for luncheon; $2½ for dinner (supper); $1 for the use of ventilating fan, English, French and German spoken; special rates for a long stay or for a family. Hôtel des Nations (Pl. 15, F 4), Boulevard Bonnard—$5 and up per day (American plan); $8 for a room with two beds; 50 cents for break-

fast; $1½ for luncheon or for supper. Hôtel de l'Univers (Pl. 22, G 5) Rue Turc—$5–6 a day (American plan); $80–200 per month. Hôtel de France (Pl. 19, G 5), Rue Catinat. Hôtel de la Rotonde, Rue Catinat. Hôtel de Victoria, Rue Turc. ***Furnished rooms*** (Chambre meublée):—Courtinat (Pl. 20, G 5), Rue Catinat—$20 per month. ***Cafés:*** Café de la Terrasse, Rue Catinat; Café Parisien, Rue de l'Avalanche; Café du Théâtre, Rue Paul-Blanchy et Boulevard Bonnard.

General Description of the City. Saigon, the capital of Cochin-China, is situated in 10° 45′ N., 106° 37′ E., 65 km. from Cap St. Jacques, on the right bank of Saigon River, a branch stream of Donnai River. Out of over 66,000 inhabitants about 6,500 are Europeans. The shape of the city is a rough square, with an area of 410 hectares (=4.10 sq. km. or 1.58 sq. m.). Not only is it the only port of the region, but, as the largest port of the French Colony in Indo-China, it surpasses, in its world-wide commercial importance, even Hanoi and Hai-phong. It has six boulevards (Boulevard de l'Abattoire, Canton, Charner, Luro, Bonnard, and Norodom), three quais—Quai Francis-Garnier, Primauguet (1,200 metres), and de la Belgique (1,100 metres), and about sixty rues, their total length amounting to 40 km. There are two streets running right through the city: one, starting from Rond-Point on the Saigon River front and ending at Rue Paul-Blanchy, that leads to the third bridge of Arroyo de l'Avalanche (2,100 metres), and the other starting from Route de Thuan-kieu and ending at Rue Chasseloup-Laubat, that leads to the first bridge of Arroyo de l'Avalanche (2,650 metres). These two streets meet in the centre of the city at right angles to each other. West of Boulevard Norodom, the ground is high and the air is dry, and, being the residential district of officials, it is very quiet. East of this boulevard is the business quarter. The main business street is Rue Catinat, which starts from Quai Francis-Garnier and leads to Boulevard Norodom. The general plan of the city has evidently been modelled on that of Paris. Its streets are regular, running either parallel to Saigon River or at right angles to it. Most of the streets have pavements and are thickly planted with tamarinds, sao, and other tropical plants, which not only afford the refreshing shade so necessary in the climate of this region, but also add considerably to the beauty of the streets. The streets are also provided with drinking fountains. Its houses are built either of brick or of stone and are mostly two or three stories high. Their colouring is admirable, and, together with their gardens, rich with luxuriant foliage and flowering tropical plants, they make the whole city look like one excellent park. In every respect, it is one of the cleanest and prettiest cities in the East. There was a time when this city, like Singapore and Batavia, was severely criticized for its unhealthy conditions, but now, with the remodelling of its streets, the filling up of its marshes, the completion of its sewerage system, and all other improvements, it is a modern city worthy of the name. It

has several parks, theatres, and other places of amusement quite attractive to the eyes of visitors. Its steam-trams, being intended for suburban traffic, can offer but little convenience for visitors to the city. This shortcoming is, however, amply compensated for by the cheap and abundant supply of rikishas, horse carriages, and, to a certain extent, by automobiles. The telephone service is also being enlarged each year. The supply of electric light and water is perfect.

The most attractive feature of the city is the sight of its cafés, which enjoy a prosperity unique to this business in such a climate. During the day time, people prefer to stay inside and take their meals in hotels, but towards the evening they all come out, and, taking their seats around the tables of cafés, they eat and drink and chat, and gaze at the stream of passers-by. Thus they forget the heat of the day and enjoy the refreshment of tropical life. This scene is, in fact, a reproduction of Paris in the East.

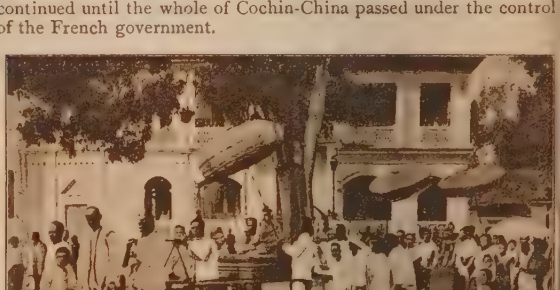
Banks and other principal business houses are closed from 11 a.m. to 2 p.m.; visitors should be prepared for this emergency.

The port of Saigon is divided into two parts. That part, which begins at the point of intersection of Arrayo de l'Avalanche and Rue Paul-Blanchy, and, extending around the arsenal, ends at Quai Primauguet, is the military port. The commercial port lies W. of Quai Francis-Garnier. Its water is about 30 ft. deep and can accommodate vessels of almost any size.

Trade. It is a regular distributing point of all cargoes. Products of Cambodia, Laos, Cochin-China, and Annam come converging to this port by various means of traffic of both land and water, to be distributed from here to all parts of the globe. At the same time, cargoes intended for the above-mentioned places first collect at this port. Its main export articles are rice, maize, sugar, leather, all sorts of forest products, black pepper, coconuts, fish-oil, and dried salted fish. The total value of exports is 212,000,000 frs. (1913), and the total value of imports, the chief articles of which are woven and other finished goods, is 161,600,000 frs. (1913).

History. The successors of King Gia-long all hated French missionaries and even persecuted them. This hatred and persecution culminated in the year 1858 during the reign of Tu-duc, when French missionaries were brutally killed. This gave an occasion for French and Spanish armed interference. On February 17th, 1859, Commodore Rigault, with an allied army of French and Spanish, troops numbering 2,300 men, captured the city of Saigon. Leaving only 700 soldiers to guard it, Rigault started on a further expedition to China. This, of course, gave the Annamese army a chance for a counter attack. The guards, surrounded by an overwhelming enemy, bravely held their post, until in 1861 Commodore Charner brought reinforcements and, landing heavy naval guns, attacked the native troops from both land and water. On Feb. 24th and 25th of the same year, the allied army won a decisive battle, and in April captured My-tho, following up their success in December by capturing

Bien-hoa. At last the king was forced to surrender, and on June 5th, 1862, a treaty was signed, by which the three provinces of Gia-dinh (Saigon), My-tho, Bien-hoa, and the island of Poulo-Condore, were given to France. Later, in the year 1867, Commodore Grandière, under the pretext of destroying the seeds of further troubles, which had unfortunately been cast abroad by the king's unwise instigation of his people, captured the three provinces of Vinh-long, Chau-doc, and Ha-tien. This policy of occupation by conquest was continued until the whole of Cochin-China passed under the control of the French government.



THE 'CEREMONY OF THE DRAGON,' COCHIN-CHINA.

Principal Buildings, etc. French Regency of Indo-China (Le Gouvernement Général; Pl. E 4), Boulevard Norodom; French Vice-Regency of Cochin-China (Le Gouvernement de la Cochinchine; Pl. 9, F 5), Rue Lagrandière; Public Works (Les Travaux Publics), Rue Pellerin; Customs and Revenue Office (La Direction Générale des Douanes et Régies; Pl. 32, G 5), Quai Francis-Garnier; Court of Justice (Le Palais de Justice; Pl. F 5), Rue Mac-Mahon; Court of Appeal (Le Cour d'Appel), Rue Mac-Mahon; Police Court (La Justice de Paix; Pl. 24, G 5), Boulevard Charner; Central Police Station (Le Commissariat Central; Pl. 4, F 4); Bureau of Agriculture and Commerce (La Sous-Direction de l'Agriculture et du Commerce (Pl. G 2), in Jardin Botanique, Rue Richaud; City Office (L'Hôtel de Ville; Pl. 10, F 4), Rue Espagne; Chamber of Commerce (La Chambre du Commerce; Pl. G 5), Place Rigault de Genouilly; Office of the Direction of the Commercial Port (La Direction du Port de Commerce; Pl. G 6), Quai Francis-Garnier; Office of the Direction of the Military Port (La Direction du Port de Guerre), Quai Primauguet; Central Prison (La Prison Centrale), Rue Lagrandière, Military Hospital (L' Hôpital Militaire; Pl. F 3), Rue

Lagrandière; Medical Institute (L' Institut Pasteur), Rue Lagrandière; Opium Factory (La Manufacture d'Opium; Pl. G 4), Rue Paul-Blanchy.

Station: Situated in Boulevard de Canton (Pl. F 6); trains for My-tho, Bien-hoa, and Nha-trang depart from this station.

Post and Telegraph Offices: Bureau Central (Pl. 2, F 4), Place de la Cathédrale; Bureau du Post, Rue Krantz near Customs Office; Bureaux Auxiliaires, Rue Catinat and Rue Pellerin. ***Telephone:*** Besides city communication, there is connection between Saigon and Cholon. ***Wireless:*** Between Cap St. Jacques, Hanoi, and Kouang-tcheou-wan; the maximum distance being 6,000 km.

Consulates: American Consulate (Pl. F 4), Rue Lagrandière; English Consulate (acting) (Pl. G 6), 7, Quai de la Belgique; Italian Consulate (honorary) (Pl. F 6), 50, Quai de la Belgique; Russian Consulate (honorary) (Pl. 23, G 5), 24, Rue Catinat; Consulates of Norway, Denmark, and Siam (Pl. G 5), 4, Rue Catinat; Portuguese and Spanish Consulates (honorary), 4, Quai Francis-Garnier; Japanese Consulate (honorary) (Pl. 31, G 6), 5, Rue d' Adran; Belgian Consulate (honorary) (Pl. 25, F 5), 117, Boulevard Charner.

Schools: Collège Chasseloup-Laubat (Pl. E 4), Rue Chasseloup-Laubat; Collège Tabert, Rue Tabert; Ecole professionnelle, Rue de Bangkok; Ecole des Mécaniciens (Pl. F 5), Rue Mac-Mahon et Hamelin.

Library: In the building of the Secrétariat du Gouvernement de la Cochinchine, 27, Rue Lagrandière. It contains 12,000 volumes and is open from 8 to 11 a.m., from 2.30 to 5 p.m., and from 8 to 10.30 p.m., except on Sundays, when it is open only from 8 to 11 a.m. It is closed during the month of August. ***Churches and Temples:*** Cathédrale (Pl. F 4), Place de la Cathédrale; Pagode de Canton, Quai de la Belgique; Pagode de Phuockien, Rue Chaigneau; Temple Malais, Rue Mac-Mahon; Temple Brahmaniste (Pl. 26, F 5), Rue Ohier; Temple Musulman, Rue Amiral-Dupré; Temple Protestant, Boulevard Norodom.

Orphanage: Sainte Enfance (Pl. G 3), Boulevard Luro. This is a work of women, intended especially for the purpose of taking care of helpless children of mixed European and Annamese parentage. It is an institution of long standing, and its name appears throughout the colonial history.

Banks: Banque de l'Indo-Chine (Pl. 29, G 6), 22, Quai de la Belgique; Hongkong & Shanghai Banking Corporation (Pl. 30, G 6), 9, Quai de la Belgique; Chartered Bank of India, Australia, & China, 3, Rue d' Adran; Business hours—7–10 a.m., 2–4 p.m., and closed on Saturday afternoons.

Markets: Marché Central (Pl. E 5), Boulevard Bonnard; Marché de Cauong-lanh, Quai de la Belgique; Marché de Da-kao (Pl. F 2), Boulevard Luro; Marché de Cho-dui, Route de Tong-kéo; Marché de Tan-dinh, Cho-moi.

Newspapers and Periodicals: Le Courrier Saigonnais, 16, Rue Tabert—issued on Mon. Wed. Fri. and Sat.; L'Opinion, Rue Pellerin—daily; Bulletin Administratif de la Cochinchine—monthly;

Bulletin de la Chambre d'Agriculture de Cochinchine—monthly; Bulletin du Syndicat des Planteurs, 135, Boulevard Charner.

Book Stores: L. Royer, 39, Rue Catinat—C. Ardin, 74, Rue Catinat—Portail, 125, Rue Catinat,—F. H. Schneider, 2, Rue Kerlan.

Photograph Studios: Ludovic Crespin, 134, Rue Catinat; J. Dông, 95-97, Boulevard Charner.

Clubs, etc. Cercle Colonial, Boulevard Norodom; Cercle Militaire, 19, Boulevard Norodom; Cercle Sportif, Rue Chasseloup-Laubat; Cercle de l'Union, Place du Théâtre (in Continental Palace Hotel); Société Philharmonique, 40, Rue Tabert; Skating, Rue Tabert; Société des Etudes Indo-Chinoises, Rue Lagrandière; Syndicat d'Initiative du Sud Indo-Chinois. ***Racecourse:*** Champ de Courses (Pl. A B 4, 5), Route de Tong-kéo. ***Military Band:*** plays on Mondays at Cercle Militaire, on Wednesdays at the Square de Boulevard Charner, on Fridays at l'Hôpital Militaire, on Sundays at Jardin Botanique; for about one hour between 5 and 9 p.m. ***Cinematograph:*** Casino, Rue Pellerin—Eden Bar, Rue Catinat.

Theatre: Théâtre Municipale, Rue Catinat (with the bronze statue of Francis Garnier standing near it at the end of Boulevard Bonnard), operated with the aid of a government subsidy of 120,000 frs. a year, during the season between October and April. On Tuesdays and Saturdays all seats are reserved by previous engagement; on Thursdays and Sundays it is open to the general public. The plays put on are mostly operas and comedies. The prices of the seats are as follows:

Loges de 1er rang (1st tier of boxes)	4 seats–20 frs.
Baignoires (corner boxes)	4 „ 20 frs.
Fauteuils de 1ère Galerie (dress circle seats)	5 frs.
Fauteuils de l'Orchestre (orchestra stalls)	5 frs.

Sights of Interest.—***Museum:*** Musée de la Société des Etudes Indo-Chinoises, Rue Lagrandière. Open 9-11 a.m. and 3-5 p.m.

Contents—In the garden are several stone statues saved from the ruins of Southern Annam and Cham.

In the veranda on the ground floor are several small statues of Cham and Khmer. There are two rooms: one is a library and the other, called Salle de Beylié, contains bas-relief works of Angkor and Myson. In a large room upstairs, beginning from its right side, are old coins of Indo-China, Japanese arms, various kinds of shells, Buddhist scriptures, etc.; at the farther end, musical instruments of Malay, India, Annam, and Cambodia; on the left side, samples of wood from the old forests of Cochin-China, samples of the rice of Cochin-China; on the left of the entrance, fishing apparatus of Annam, arms of Indian savages; on the shelves against the walls, utensils, arm-rings, and jars, found in the neighbourhood of Bien-hoa, Kompong-chnang; old coins of China, Corea, and Japan; bronze articles and earthenwares of Annam, Cambodia, and Siam: woven goods of Laos; ancient ritual wheels and canoes; jars of Cay-mai near Cholon, Chinese blue porcelain; in the room adjoining, a collection of jars and reptiles found in the Mekong River.

Botanical Garden: Le Jardin Botanique is situated in the N. E. corner of the city between the arsenal and l'Arroyo de l'Avalanche, and contains a menagerie. It is not a big garden, but is richly planted with large and luxuriant tropical trees and brightly coloured beautiful flowers. Its greenhouse contains a rare collection of orchids (orchidées) of Indo-China. Tigers, leopards, bears, elephants, and various kinds of reptiles are kept here and there throughout the garden. There is also a big iron cage containing all sorts (120 kinds) of native birds of Indo-China. Near a pond is a band-stand, where the city military band plays every Sunday. There is also an experimental garden, devoted especially to the study and the propagation of tropical plants. A catalogue is published annually and distributed to all the botanical gardens of the world, for the special purpose of securing orders for seeds.

Parks: Jardin de la Ville (Pl. D E 5), Rue Tabert et Chasseloup-Laubat. It extends from Rue Pépinière to the back of the Gouvernement Général and contains many old trees. On its lawn, foot-ball is played every Sunday. Jardin Botanique (Pl. G 2), Rue Richaud.

Arsenal and Dock:—(Pl. H 3) The arsenal faces the Boulevard Luro on one side and the Saigon River on another. Its grounds are roughly square and have a circumference of 2 km. It is the greatest of all French colonial institutions of the kind and has a considerable quantity of materials, together with the latest equipments. Its great iron hammer, weighing two tons, can easily forge guns of big calibre. In ordinary times, it undertakes, beside its military work, the work of repairing merchant vessels, and machinery, and also of building small boats.

Bassin de Radoub is one of the greatest docks in the world. It was started in 1884 and completed in five years, at a cost of 7,000,000 frs. Its length is 168 metres, 12 metres longer than the French dock of Toulon.

Fishing Scene in the Mekong.

Rond-Point Rigault de Genouilly (Pl. G 5): This is a semi-circular space at the point of junction of Quai Primauguet and Quai Francis-Garnier. Five main streets of the city converge to this point from all directions. In the centre of it stands the bronze statue of Rigault de Genouilly, the hero of the battles of Saigon and Tourane.

Place de la Cathédrale (Pl. 1, F 4): is in front of the Governor's official residence, between Boulevard Norodom and Rue Tabert. In the centre stands a cathedral in the Roman style (built during 1877–1883 by the Travaux Publics at a cost of 2,059,297 frs.), with a spire 40 metres high. Near it, and in perfect harmony with its architecture, stands the building of the Central Post and Telegraph Office. In front of the cathedral, facing Rue Tabert, stands the bronze statue of Monseigneur Pigneau de Behaine, Bishop of Adran, the first French missionary to come to Indo-China. In Boulevard Norodom in front of the Governor's official residence, is a square lawn planted with trees. A famous statue of Gambetta used to stand here, until it was removed in 1915 to the site of the old central market.

Palais du Gouverneur Général: situated in a large garden at the end of Boulevard Norodom. The building was begun in 1868 and completed in seven years, at a cost of 4,714,662 frs. It is a magnificent structure, with a façade of 80 metres, and the main building, which has a wing on each side, is surmounted by a beautiful dome.

Hôpital Militaire: a large brick building with iron frame, facing Rue Lagrandière. It has thoroughly modern equipments. On every Friday, the city military band gives a concert in this building.

L'Institut Pasteur: adjoins the Hôpital Militaire. It is noted for the treatment of hydrophobia and wounds caused by the bites of poisonous animals. Patients come here from Annam, Tongking, Cambodia, and from even as far as Hongkong, Singapore, and Batavia.

Places of Interest in the Environs—*Excursion to Inspection* (Tour de l'Inspection). This is a popular excursion ground, situated near Gia-dinh, E. of Saigon, noted for its luxuriant trees and the extensive view it affords of rice-fields and Arroyo de l'Avalanche. Business men of Saigon like to drive here after their day's work, through its wide avenue of trees, that runs from the end of Rue Paul-Blanchy and across the third bridge of Arroyo de l'Avalanche, turning to the right at the N. of the city, and passing by pretty villages scattered among extensive rice-fields. One can return by a different road; and, if one likes, may stop at the Botanical Garden on the way back. The length of the excursion is 9 km., requiring one hour and twenty minutes by horse carriage. The fare is $1.50 for a carriage and 45 cents for a rikisha.

Tombeau de l'Evêque d'Adran: This tomb was built by King Gia-long in memory of the Bishop of Adran. It is a beautiful

tomb, in a garden on Govap Road, 6 km. from Saigon, about one hour's ride by horse carriage. Near the place is a private orchard planted with about 5,000 sao and teak-trees and 15,000 hevea brasiliensis.

Note. Pigneau de Behaine, the Bishop of Adran, was the first French missionary to come to Indo-China. Through his instrumentality a treaty between King Gia-long and France was signed. He died in 1799.

Means of Communication—*Steam-tram:* (1) Saigon-Cholon (Route Haute)—5 km., depart from Rue Duperre; operated once every thirty minutes from 5 a.m.—8.30 p.m.; *fare* to Cholon, 10 cents 1st class. (2) Saigon-Cholon (Route Basse)—6 km.; depart from the W. end of Rue Catinat; operated once every thirty minutes from 5 a.m.—8.30 p.m.; *fare* to Cholon, 10 cents 1st class. (3) Saigon-Hoc-mon—20 km.; the line is divided into two, with Govap as their junction; depart from the W. end of Rue Catinat; *fare* to Govap, 12 cents; from Govap to Hoc-mon, 15 cents; operated from 4 a.m.—8 p.m., once every thirty minutes from Saigon to Govap, once every hour from Govap to Hoc-mon. At present, however, through cars from Cholon to Hoc-mon are operated. There is also a branch line from Govap to Lai-thieu, 10 km. long; *fare*, 30 cents.

Railways: (1) Saigon-My-tho—71 km.; passenger trains leave four times a day; *fare:* 1st cl., $3.20; 2nd cl., $2.06; time taken, 2 to 3 hours (see P. 190). (2) Saigon-Bien-hoa-Nha-trang—410 km.; trains leave three times a day to Bien-hoa; once a day to Phan-rang. There is no through train running to the terminal point. *Fare:* to Nha-trang 1st cl., $24.60; 2nd cl., $12.30 (see P. 182).

Automobiles: Saigon-Tay-ninh—104 km.; time, 3½ hours; depart from Place de la Cathédrale, at 6 a.m. on Tuesdays and Thursdays, at 1 p.m. on Saturdays; depart from Tay-ninh at 6 a.m. Wednesdays, Fridays, and Mondays; *fare*: $1 to Hoc-mon, $2 to Cuchi, $2.50 to Trang-bang, $3 to Godan, $4 to Tay-ninh. (see P. 189).

Steamships:

(1) Messageries Fluviales Co.'s Lines (Pl. G 5—Quai Francis-Garnier)

(a) to Cambodia: leave Saigon on Tuesdays, Thursdays, and Saturdays, at 9 a.m. The Saturday steamer connects with the Laos Line. During the rainy season, when the rivers generally rise, the Tuesday steamer goes as far as Battambang.

(b) Grande Ligne de l'Ouest: leave Saigon on Mondays, Wednesdays, and Fridays, bound to Dai-ngai via Chau-doc. *Fare:* $15.35 to Chau-doc, $19.65 to Dai-ngai.

(c) to Cap St. Jacques: leave Saigon every day but Wednesday, usually in the morning; time taken, about 4 hours; *fare*, $2.25; round trip, $3.

(d) to Tay-ninh: leave Saigon once a week; *fare*, $11.55.

(2) Messageries Maritimes Co.'s Lines (Pl. G 6—Khanh-hoi):

(a) to Hai-phong via Qui-nhon, Camranch, Tourane; leave Saigon once a week.

(b) to Singapore via Poulo-Condore: leave Saigon fortnightly.

(3) Chargeurs Réunis Co.'s Line (Rue Catinat): between Marseilles, Bordeaux, Dunkirk, Le Havre, Saigon, and Hai-phong once a month.

(4) P. Roque Co.'s Line: to Bangkok, Siam, twice monthly.

Route XVII. Saigon—Bien-hoa—Nha-trang.

by rail (410 km.)

General Description of the Route.—This line starts from Saigon and, running through Bien-hoa, Cochin-China, then enters Annam, proceeds via Phan-thiet and Phan-rang, and ends at Nha-trang. Its total length is 410 km. It is a part of the great prospective line of the future, that is to connect Tourane on the one hand and Bangkok, Siam, on the other, via Saigon and Phnom-penh, the capital of Cambodia. Trains run from Saigon to Bien-hoa three times a day and from Saigon to Phan-rang once a day. No through trains run to its terminal point. Its main stations, time taken, distances, and fares are as follows:

Stations	Dist.	1st cl. fares	2nd cl. fares	Stations	Dist.	1st cl. fares	2nd cl. fares
	km.	$	$		*km.*	$	$
Govap	8	.48	.24	Phan-thiet	191	11.46	5.73
Thu-duc	17	1.02	.51	Malam	197	11.82	5.91
Bien-hoa	32	1.92	.96	Tour-cham	322	19.32	9.16
Tran-tao	110	6.60	3.30	Bangoi	370	22.20	11.10
Gia-huynh	116	6.96	3.48	Suoi-giao	397	23.82	11.91
Muong-man	179	10.74	5.34	Nha-trang	410	24.60	12.30

Govap (8 km. from Saigon, 3 km. from Gia-dinh): the chief market place of the province, with a population of 5,500. The fruit and vegetables consumed in the city of Saigon are furnished from here. Besides the railway station, it has a station of the steam-tram running between Saigon and Hoc-mon, a branch line of which runs from here to Lai-thieu. A sight worthy of a visit is the Pagode des Eléments.

Thu-duc (17 km. from Saigon, in about 30 min.): This is also an important market place with a fair population. It is noted for its spring, Source de Thu-duc, the water of which is cold and clear, fit both for drinking and bathing purposes.

Thu-daumot (29 km. from Saigon): the capital of the province of the same name. Though it has no railway facilities, a very good road connects it with Thu-duc. It is a trading city, with office buildings, schools, and post-office, and three miles from it is the pagoda of Ba-Lua. Thu-daumot can be reached from Saigon by launch; *fare* 80 cents. A stage-coach runs twice daily between it and Bien-hoa.

Bien-hoa (32 km.from Saigon, in 1 hour): is the capital of the province of the same name, situated on the left bank of Donnai River. Quite a prosperous city, with factories, offices of the local administration, and other official buildings. Its roads are all paved. It was once the capital of Cambodia and is one of the three cities in Cochin-China that received the first Chinese immigrants. It has two sights worthy of a visit: the statue of the Buddha of Bun-son in

ENVIRONS OF LANG-BIAN

Scale 1 1500.000

English Miles

0 4 8 12 16 20 24

Kilometers

0 6 12 18 24 30

EXPLANATION

Numbers showing distances in kilometres in black are counted from Xomgum, those in red from

the village of Binh-tronc and the Buddhistic statue with an elephant's head of the temple Phuoc-hoi in the village of Tan-trieu. 40 km. N. of the city is a good hunting ground, where stags, wild fowl, peacocks, wild-boars, and other game can be found in abundance. Deep in the mountains one may meet with elephants, tigers, and rhinoceroses.

The Rapids of Trian. About 30 km. N. of Bien-hoa, on the left bank of the Donnai, where it meets Song-bé River, is a village called Trian. The rapids are about 3 km. below this village. Its banks are thickly covered with big tall trees, under which runs its rapid and resounding stream. There is no hotel nor inn at the spot nothing but a bungalow. Visitors should, therefore, provide themselves with lunch. The only means of conveyance are automobiles and horse carriages.

Bien-hoa to Cap St. Jacques.

Towards the southern coast from Bien-hoa, and off the railway, is Cap St. Jacques. It can be reached from Bien-hoa by an automobile (mail automobile with ten passengers), which runs three times each week: leaving Bien-hoa on Wednesdays and Fridays at 8 a.m., and on Saturdays at 2 p.m.; leaving Cap St. Jacques on Wednesdays and Fridays at 2 p.m., and on Mondays at 6 p.m. The *fare* is $5 and the time taken is three hours and a half.

Baria (72 km. from Bien-hoa) is the capital of the province of the same name, situated on the left bank of Rach de Baria. It has several nearly completed streets and a large market place; it can be reached from Saigon by water.

Cap St. Jacques (95 km. from Bien-hoa) is at the end of the projection into the sea of the mountain ridge that crosses the whole territory of Annam. It is said that this name was first given to it by a Portuguese sailor. It has an excellent hotel, called Hôtel Beau Séjour: $6 and up a day (American plan), and $1.50 for a meal. The town faces the Baie des Cocotiers and has several beautiful streets running in various directions. In the centre is a large native market-place, around which is the Chinese quarter. A villa of the governor and other elegant villas are scattered throughout the town, making it a beautiful place. Cool breezes always blow over this region, and for that reason it is considered to be the best resort in the whole of Cochin-China, both for invalids and those in good health. The main recreation grounds in its vicinity are: (1) Baie de Tè-Ouan (2 km. S. of the town)—Here is Pagode de Baleine (Whale Pagoda). (2) Baie de Gaud-ray (4 km.), Route du Littoral around Massif du Phare (6 km.), and Route de la Corniche around Grand-Eperon are all noted for their views of the wide and smooth expanse of sea, partly hemmed in by the wooded cliffs of the shore, along which are several bathing-places. Between l'Inspection and Sanatorium is an hotel. This spot can be reached from Saigon by water in four hours. Here are also a military port and other port equipments. Wireless both to E. and W. passes here.

Muong-man (179 km. from Saigon) is a little station town, 231 km. distant from Nha-trang. A branch line of 12 km. starts from this station and extends to Phan-thiet.

Phan-thiet (191 km. from Saigon, in 5½ hrs.) is the capital of the province of Binh-thuan, about 7 km. from the seacoast. The place is exposed to rough winds off the sea, but to the N. lies a wide tract of rich soil, the important product of which is rice. There are also many salt-producing spots in the vicinity.

Malam (197 km. from Saigon, in 5¼ hrs.): Like Tour-cham (Phan-rang), it is a station where visitors to Lang-bian have to alight. Otherwise, it is an insignificant little spot.

Plateau du Lang-bian:

Means of Communication.—There are two routes to Dalat, the centre of the plateau of Lang-bian: one by the railway from Tour-cham to Xomgom (39 km., operated only on Tuesdays and Fridays) then to Bellevue in a sedan-chair or on horseback, and then to Dalat, via Dran and Fimnon, by automobile; the other from Malam, near Phan-thiet, to Dalat, via Djiring (79 km.) and Klong (135 km.), by automobile. This automobile service is operated by the government railway in a very satisfactory manner, both as regards the rate of its fare and its connection with the trains. For the convenience and advantage of travellers, circular tour tickets are issued.

The automobile and the train services are scheduled as follows:

(a) Tour-cham—Dalat (Outward journey)—Leave Tour-cham 5.30 a.m. Tuesdays and Fridays; Arrive Xomgom 6.40 a.m.—(train).—Leave Xomgom 7 a.m., arrive Dalat 1 p.m.—(Xomgom-Bellevue, sedan-chair).
(Return) Leave Dalat 7 a.m. Friday; arrive Xomgom 2 p.m.—Leave Xomgom 3 p.m.; arrive Tour-cham 4 p.m. (Upon the application of more than three persons, a temporary service may be had on Tuesdays according to the same schedule).

(b) Malam—Djiring—Klong—Dalat Route:
(Outward)—The train from Saison arrives at Malam at 0.40 p.m.
Leave Malam (automobile) 1 p.m. Saturday—arrive Djiring 5 p.m.
Leave Djiring 7 a.m. Sunday—arrive Dalet 10 a.m.
(Return)—Leave Dalat 2 p.m. Saturday—arrive Djiring about 5 p.m.
Leave Djiring 7 a.m. Saturday—arrive Malam 11 a.m.
The train for Saigon leaves Malam 0.40 p.m.
(Upon the application of more than three persons, a temporary service may be had on Wednesdays from Malam, and on Tuesdays from Dalat).

Automobile Fares:

Malam—Djiring ... ... $ 5
Djiring—Dalat ... ... ,, 5
Dalat—Bellevue ... ... ,, 5
Dalat—Dankia (round trip)—half-day $ 10, one day $ 20.
Dalat—Les Planches (round trip)—half-day $ 10, one day $ 20.
Dalat—Lien Khanh and Lien-Gou-Gah (round trip), $ 25.
Dalat—Dran and Bellevue by Fimnon (round trip), $ 30.

Circular Tour Tickets: For the convenience and economy of those who wish to go round Lang-bian to obtain comprehensive views of its surroundings, circular tour tickets are issued. These tickets include train, automobile, and sedan-chair services. The holders are free to travel by any route they wish, but they should beforehand notify the route chosen to the Saigon station office or the railway official at Dalat, as the case may be, and must apply for the tickets within eight days before starting. The validity of such tickets is sixty days. The rates are as follows:

	Points of Departure		1st cl. fares	2nd cl. fares
			$	$
1	Saigon (Saigon: Bien-hoa, all stations between included)		36.00	25.00
2	Giarang (Bien-hoa—Song-phan,	,,	28.50	21.00
3	Phan-thiet (Suoi-van—Song-luy,	,,	23.00	18.00
4	Song-mao (Chau-hanh—Song-long-song,	,,	18.50	13.00
5	Tour-cham (Vinh-hao—Karom,	,,	17.50	13.50
6	Bangoi (Trai-ca—Hoa-tan,	,,	21.50	15.50
7	Nha-trang (Suoi-giao—Nha-trang,	,,	24.50	17.50

Note—the above rates do not include meals. A meal on the train costs $1.80.

Position: 100 km. N. W. of Phan-rang; about 370 km. from Saigon; about 80 km. in a straight line from the nearest towns on the coast. The area of the plateau is about 20 km. square, and it is 1,450,—1,550 metres above the sea-level.

Climate: The air is pure and fresh and the temperature is much milder than that of the delta region: in the dry season (from December to March) it ranges from 22°C. to 25°C. (in Saigon the highest temperature throughout the year is 30°C. and the lowest 25°C.) and from 8°C. to 10°C. during the night. In the wet season (from April to November), the temperature during the day does not differ much from that of the dry season, but during the night it ranges from 14°C. to 18°C. The variation being very small, this season is an ideal one for invalids.

Time of Visit: Though the wet season is preferable for invalids, for general tourists and hunters the dry season is better. However, there being a considerable difference during this season between the day and night temperatures, visitors should take with them some woollen or flannel clothes.

Hotels: At present there is only one, having twelve rooms. Another big hotel is in the process of building, but two years more will be required before its completion. In this respect, as in the improvement of its streets, the future holds great store for this place. As it is now, twenty rooms are about all the accommodation it can afford tourists.

Fresh vegetables and fowls can be had reasonably and in abundance. The drinking water also is of good quality. There are facilities for both postal and telegraphic communication.

Luggage: Whichever road one takes, one's luggage must be sent out addressed to Xomgom Station the night before one starts. It will then be carried to Dalat by rail without delay. No charge up to 60 kgs. In the automobile one may carry with one hand-bags or similar small baggage.

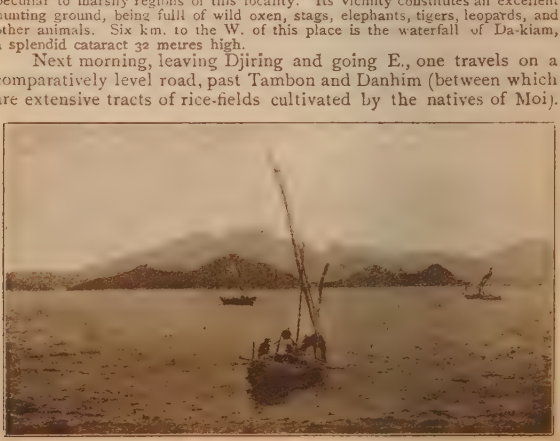
Sights along the Routes:

(a) ***Malam-Djiring-Dalat Road*** (157 km.). At present this road is hard to travel over in the wet season, but it is expected that before very long it will all be paved with stone, so that one can

travel on it comfortably in all seasons. The automobile leaving Malam, after passing through 26 km. of flat country, reaches Neutong (220 metres above the sea-level). From here the road becomes hilly. Running along the narrow road that winds several times around the hillsides, one passes through Yaback (830 metres above the sea-level) and Srépa (820 metres above the sea-level), and comes to the Pass of Haloum, 5 km. long and over 1,000 metres above the sea-level. Here the road climbs still higher, and hills and valleys overhang and fringe it in a most threatening manner. It has been repaired several times and yet it is still the most perilous part of the entire route. After this, the road becomes more level until one comes to Yankas (1,000 metres above the sea-level, 54 km. from Malam), where there is a comfortable resting-place. Leaving here, one comes again to a hard path, called the Pass of Datroum, 8 km. long and 1,230 metres above the sea-level, which commands a magnificent view of the surrounding country. Ascending this path and then going in an easterly direction for 17 km., one finally comes to Djiring, where, unless travelling in a special car with a few passengers bound to Dalat during the day, one has to alight and stop overnight.

Djiring is the only city in this mountain region and is destined to be in the near future the capital of the province of Donnai. Even at present it has a post and telegraph office, a forestry bureau, barracks for native guards, and several bungalows in Indian style, besides being the seat of the Délégation administrative. The surrounding area has rich soil and is quite thickly inhabited. There are also several streams running through the region, affording good irrigation facilities, but unfortunately their water carries the germs of a certain disease peculiar to marshy regions of this locality. Its vicinity constitutes an excellent hunting ground, being full of wild oxen, stags, elephants, tigers, leopards, and other animals. Six km. to the W. of this place is the waterfall of Da-kiam, a splendid cataract 32 metres high.

Next morning, leaving Djiring and going E., one travels on a comparatively level road, past Tambon and Danhim (between which are extensive tracts of rice-fields cultivated by the natives of Moi).



THE SEA OFF PHAN-RANG.

Not very far from Danhim, one comes to the great cataract of Lien-Gou-Gah, which in the flood season resembles Niagara Falls, the sound of its falling water being audible for ten km. around. Then the road again rises a little, and in about 10 km. from there, passing by another waterfall, Lien-khanh, one comes to Fimnon, and a little farther on to Klong.

Klong (1,000 metres above the sea-level) is a little town amid fertile, hilly country. At present, it is nothing but a gathering-place of hunters, but it is going to be a prosperous city in the near future. Already an automobile service has been inaugurated between Fimnon and Dran, in order to connect the latter point with Klong and through it to Phan-rang Port, where the products of the plateau are being transported with ease.

Leaving Klong, one traverses the region of Lang-bian, through its avenue of pine-trees, noted for its pure and fragrant air. Then the road once more becomes hilly and perilous. After proceeding about 22 km. along this road, a wide, undulating plateau looms up before one. That is Dalat. To the N. of it rises the peak of Lang-bian.

(b) ***Tour-Cham*** (Phan-rang)—***Dran—Dalat Road*** (74 km. from Xomgom to Dalat). The train coming from Tour-cham stops at Xomgom, which is the terminal point of the line. Xomgom is a little town surrounded by high peaks, and therefore extremely hot. From it to Bellevue, one has to ride in a sedan-chair or on horseback or walk, there being no automobile service. Daban is on this route, 6 km. from Xomgom. From Daban, the road is narrow and winds along hillsides, with frequent hard ascents, and rapid streams run below one's feet. The Moi sedan-chair carriers are robust, simple, and gentle fellows, more dependable than Annamese. They like tobacco, matches, and toys better than anything else. With a petty present of this kind you can almost make them worship you. The farther one ascends the cooler becomes the air. In the meantime, one arrives at Bellevue, where one can again take an automobile and ride farther to Dran and then to Fimnon along a new road, which leads to the Djiring-Dalat Road. Before 1915, i.e. before this new road was opened, one had to stop overnight at Dran, and the following morning to continue in a sedan-chair along the old road to Dalat.

Phan-rang (322 km. from Saigon, in 10½ hrs.) is the capital of the province of the same name. It is situated 7 km. from the seacoast, on both sides of a river that flows from the mountains of Lang-bian. In its vicinity is a small port, Man-rang. The main products of this region are rice, tobacco, cotton, fruits, pea-nuts, cocoons, coffee, sugar-cane, cattle, and salt. Of these, salt is the most important, both in the quantity and the value of its export: 14,000,000 kgs., valued at 85,000 frs. This place is the starting-point of the road running to Lang-bian, a beautiful resort. From Tour-cham (Phan-rang) to Xomgom there runs a branch railway, which is operated only on Tuesdays and Fridays. (For particulars concerning an excursion to the plateau of Lang-bian, see P. 184.)

The distance between Phan-rang and Tour-cham is 6 km. A horse carriage runs every thirty minutes; *fare*, $1.

Bangoi (370 km. from Saigon, in 12 hrs.): In this vicinity, facing the famous Camranh Bay, is the town of Camranh.

Camranh, thanks to the efforts of the Marquis de Barthélemy, is destined to be one of the great ports in the East. The port is very large, protected from winds and waves by the surrounding land, and open to the sea by one channel only. Its waters are deep, and, when its equipments are completed, it will be able to harbour vessels of any size. Lately, a great mercantile house was established here, and ocean-going steamers have scheduled Camranh as one of their calling ports between Hai-phong and Saigon, at the same time giving up touching at Nha-trang and Phan-rang.

Hotel: There is one with six rooms, managed by les Comptoirs Français du Sud Annam.

Suoi-giao (397 km. from Saigon) is a small town situated amid hilly country. It has no objects of interest, except Dr. Yersin's experimental station, devoted to the rearing of animals and a plantation of rubber-trees.

Nha-trang (410 km. from Saigon in 13½ hrs.) is the terminal point of the line and the capital of Khanh-hoa Province. It has a population of 5,000, including comparatively few Europeans. It is noted for its fishing industry. Its objects of interest are as fellows:

L'Institut Pasteur de Nha-trang—This experimental institution devoted to the study of germs is conducted by Dr. Yersin (the French scientist who discovered, simultaneously with Dr. Kitazato, the germ of Bubonic plague) and is the greatest one of the kind in the East. Here Dr. Yersin found many dead mice in the houses of the natives. He at once proceeded to examine the blood of these mice and discovered that they had died of the same disease as that to which so many of the natives had fallen victims. Then he extracted certain dark germs out of the blood of the dead mice and inoculated some healthy ones with them, which immediately died showing plague symptoms. His enthusiasm for the experimental study of tropical diseases did not stop here. He saw the necessity of building an experimental institution in Indo-China, and the Nah-trang Pasteur Institute is the result. Later, owing to the difficulty of obtaining in this region the food stuff required to feed the animals kept for the purpose of his experiments, he built the rearing place already referred to at Suoi-giao, 13 km. from this place.

The Ruins of Po-Nagar—Behind Nha-trang is a lagoon protected from the sea by sand-hills, leaving a narrow strait just wide enough for a fishing boat to pass. This strait leads one to the Ruins of Po-Nagar, i.e., the ruins of the temple of Cham. A boat can be hired through one's hotel. These ruins had long been neglected, but lately they have been rendered lasting by the efforts of the Director of Arts of l'École Française d'Extrême-Orient.

The ruins stand on a hill and consist of a double row of towers, protected by fences. From here high steps lead to a terrace, where there is a great round hall of pillars (Salle à Piliers).

In the middle room of the main tower is a beautiful statue of Uma. The tower is five stories high, and in the façade of its top are curved heads of lions and *makara*, in the fashion peculiar to this region. There are several other features of artistic value in the building.

Route XVIII. Environs of Saigon.
West Cochin-China.

(1) Saigon—Tay-ninh.

Between Saigon and Tay-ninh there is an automobile service three times a week (leaving Saigon on Tuesdays, Thursdays, and Saturdays; leaving Tay-ninh on Wednesdays, Fridays, and Mondays). The fares and stations en route are as follows:

Saigon—Hoc-mon: $1—Cuchi: $2—Trang-bang: $2.50 -Go-dau-ha: $3—Tay-ninh: $4.

There is an interurban light railway between Saigon and Hoc-mon, which stops at Gia-dinh and Govap (see P. 181).

Gia-dinh (4½ km. from Saigon) is the capital of the province of Gia-dinh. It contains many brick buildings, also several official and school buildings. Its suburbs are beautiful, and people driving from Saigon to Tour de l'Inspection pass through this spot. The two roads from Saigon to Tay-ninh and Cap St. Jacques (called Route Coloniale) pass through this city. The railway fare from Saigon is 5 cents single and 9 cents return.

Govap (8 km. from Saigon)—See P. 182

Hoc-mon (18 km. from Saigon) is a market place with a population of 3,500, in size ranking next to Govap, the chief articles dealt in are tobacco, fowls, and rice. It is also noted as the place where Doc-phu-ca (Chevalier de la Légion d'Honneur), who surrendered to the French army after the battle of Chi-hoa, was murdered. There is a temple bearing this name. The automobile that runs between Saigon and Tay-ninh stops at this place.

Trang-bang (56 km. from Saigon) is a city of the province of Tay-ninh, with a population of 4,000. It has a market place, where tobacco is the chief article of transaction.

Go-dau-ha (about 65 km. from Saigon): Pop. 1,000. There is a long wharf where launches moor. Its market is famous for transactions in fish and mango.

Tay-ninh (104 km. from Saigon) is the capital of the province of the same name. The city is divided into three parts: fortress region, official section, and natives' quarter. Its streets are regular, and it contains several official and school buildings and two market places. The road from Saigon to this city passes through beautiful scenes of nature, and, especially where it passes through forests, it reminds one of Fontainebleau. There is also a road leading to Phnom-penh, the capital of Cambodia, which is the only means of communication by land from here to the region of Angkor.

12 km. N. of the city is Mount Tay-ninh (Nui-badeu—meaning dame noire or black dame), reached in three hours by ox-car. The entire mountain is covered with trees which swarm with monkeys. This region is the best hunting place in Cochin-China. Its products are lumber, maize, tobacco, manioc, mulberry-trees, etc. The lumber business would be a very promising one, but for the difficulty of securing labourers.

(2) Saigon—My-tho.

This line is run by a little private company and has a total length of 71 km. Starting from Saigon, it passes Cholon and Tan-an and ends at My-tho. Trains leave four times a day, covering the distance in from two to three hours. The distances and fares are as follows:

Stations	Distances	1st class fares	2nd class fares
	km.	$	$
Cholon	6	0.27	0.17
Tan-an	47	2.12	1.36
My-tho	71	3.20	2.06

Cholon (6 km. from Saigon)—One arrives at the station of Boulevard de l'Ecole, about ten minutes by train from Saigon. Besides the railway, there are two lines of steam-trams, five roads for horse carriages and automobiles, and also a line of steamers via l'Arryo Chinois. *Hotel and Café:* Mme Maingault.

General Description. This city is the centre of the trading and manufacturing industries in the suburbs of Saigon. It has a population of 240,000 (according to the census of 1915), one-third of whom are Chinese (mostly Cantonese) who are controlling the greater part of the business of the city. Formerly it was the capital of the whole of Cochin-China, and it is still the residence of Tong-Doc (who is living in a magnificent house, supported by a pension from the French government, though at present having no political relation with it). Its streets are old-fashioned, narrow, and filthy. In the general appearance of the city, it cannot be compared with Saigon, but in its trading and manufacturing activities, it is in a position to control the destiny of the city of Saigon. Indeed, it is the greatest business city of the French territory in Indo-China, very prosperous-looking in its own old-fashioned way, with thousands of business houses picturesquely decorated with large signs and variegated lanterns, and open both day and night. The raw products of Cambodia, Laos, and Cochin-China are first brought here, to be converted into finished goods and to be shipped via Saigon to all quarters of the earth. Of its manufacturing activities, polishing of rice is the most important. There are many rice-mills, including Bengol and German steam mills, each with the capacity of turning out about 1,000 tons a day. There are also some wineries and porcelain and leather factories. All of these factories are owned and managed by Chinese. The products of Cochin-China—rice, black pepper, fish, coconuts, dried salted fish, maize, copra, and many others—are also transacted in this city.

Post and Telegraph Offices: Bureau Central, Quai Gaudot; Bureau Secondaire de Binh-tay; Bureau de Choquan, 10 Quartier.

Markets: Marché Central—Marché aux poissons—Marché de Binh-tay—Marché de Binh-dong—Marché de la Rue Landes.

Rice-mills: (all located on the river banks for the convenience of transportation). Rizerie de Nam-long; Ban-yon-quan; Ban-tes-quan; Union; Orient; Ngy-chéong-seng; Yee-chéong, Banec-quan.

Distilleries: Larue Frères (beer, lemonade, soda, ice); Société française des distilleries.

Hospital: Hôpital Municipal de Choquan.

Tan-an (47 km. from Saigon) is the capital of Tan-an Province and contains the local government office, custom-house, post and telegraph office. Though formerly a prosperous city, it is now an insignificant little spot. It is a stopping station between Saigon and My-tho and connected with Soairieng (Cambodia) by the steamship line of the M.F. Co.,—the steamer leaving Tan-an on Wednesdays and Fridays at 8.30 a.m. and Soairieng on Thursdays and Sundays.

The Harbour of Mytho.

Cai-ngan (60 km. from Saigon) is a little town of Thuan-tri Canton of the province of My-tho, 5 km. distant from My-tho. It has a fairly good market place. Pop. 2,000.

My-tho (71 km. from Saigon, in 2 or 3 hrs.) is the capital of the province of My-tho, with a population of 27,000. Its main public buildings are inspector's office (Inspection), custom-house (Douane), church (Eglise), hospital for natives (Hôpital Indigène), school (Collège), library (Bibliothèque), post and telegraph office (Bureau de Poste et de Télégraphe). Though the weather conditions are fairly good, visitors to this city suffer greatly from the inadequate supply of drinking water, which is transported from Saigon every other day, the transportation expense being paid by the local government. Most of the inhabitants drinks river water, without distilling it, which is the cause of cholera being so prevalent in this region. This place is the starting-point of the line of steamers

sailing for various parts of western Cochin-China and Cambodia. The schedule is as follows:

(1) **Bentré Line** — Leave My-tho: Tuesdays, Thursdays, Saturdays, and Sundays, at 8.30 a.m.; Mondys, Wednesdays, Fridays, at 9 a.m. Arrive Ben-tré, about 11 a.m. of the same days. Leave Ben-tré, 1 p.m. of the same days. Arrive My-tho, 3 p.m. *Fare:* 65 cents one way.

(2) **Tra-vinh and Vinh-long Line**—Leave My-tho: Tuesdays, Thursdays, and Saturdays, at 9 a.m. Arrive My-tho, 11 p.m. *Fare* between My-tho and Tra-vinh, $4.90.

The soil of this region is rich and produces rice, Indian potatoes, sweet potatoes, maize, cocoa, bamboo, etc., the area of cultivation extending over 132,580 hectares. Its fishing industry is also prosperous, the annual output being 100,000 kgs., one-third of which is exported.

Ben-tré (92 km.) is the capital of the province of the same name and situated on the right bank of Rach de My-tho, 2 km., from the point where the Ham-luong meets it. It is reached by water from My-tho in two hours. Its streets are wide and beautiful, and in its centre is a boulevard with several official, scholastic, and hospital buildings. It has a reservoir (1,000 sq. metres) from which drinking water is supplied to its inhabitants during the dry season. Its main products are rice, silk, and fruits. Besides steamship communication, there is a good road (called Route Coloniale) that runs from My-tho to Tra-vinh.

Tra-vinh (134 km.) is the capital of the province of the same name, situated on the left bank of Rach Tra-vinh, which flows into Cachien River. Communication with My-tho is carried on by a steamship line of the M. F. Co. The steamer anchors at Viam near the mouth of the river, and from there a road leads to the city. The city is traversed by a wide street and has also a large market place and a number of Chinese stores. The main articles of transaction are rice, paddy, black papper, and coconuts. Besides the water communication facilities, it is connected by Route Coloniale with Ben-tré (32 km.), Vinh-long (66 km.), and Soc-trang (65 km.). In the city stands the Pagode de Chua-Ong-Mat, in which is installed a large image of Buddha, which, according to tradition, came floating down from Cambodia during a great flood of long ago.

(3) **Western Lines** (steamship lines of the M. F. Co.)—

Vinh-long (120 km. by land) is the capital of the province of the same name. Communication is effected by a steamship line from Saigon, three times a week. Its main product is rice, which is exported mostly to China. It is connected with Sadec, Tra-vinh, and Cantho, by three roads, all of which can be travelled in a carriage. The launch that passes between Saigon and Pnhom-penh (Cambodia) stops here. There is also a Chinese launch that leaves My-tho at 8 a.m. every day, bound for this port.

Sadec (132 km. by land) is the capital of Sadec Province, under the judicial authority of Vinh-long, except the police authority, which is local. The city occupies a beautiful tract, planted with cocoa and coconut trees, on the left bank of Fleuve Antérieur (Mékong). It has a neat appearance, with its regular streets and many brick houses. Across Rach Sadec is a steel bridge, which connects the business quarter of the city, run mostly by Chinese and Annamese, with the European residential district and its surrounding villages. The residential and official district of Europeans is on the island in Rach Sadec, around which grow eucalyptus, mango,

cocoa, and other tall, thick trees. It is not without reason that this place is called the garden of Cochin-China. The natives' quarter is opposite to this so-called garden, across the river. The city has no objects of interest, except an orphanage, the pagode de Cai-tau-ha, and the tomb of King Gia-long. Its industries are stock-raising, general farming, and fishing.

Chau-doc (220 km.) is the capital of Chau-doc Province. It has a population of 3,000 and is situated on the right bank of Fleuve Postérieur, near the boundary line of Cambodia. It has a great market place and also important military barracks. The depth of the city is 600 metres, and throughout the whole length of its front, along the river, runs a raised coast road (quai) 5 metres high. Along this quai are a fish market, a slaughter house, soldiers' barracks, the wharf of the M.F. Co., and other buildings. Six km. from the city is Mount Nui-sam, where rough stone (moellon) used for building purposes is produced. This city is an export port for the products of Cambodia, particularly of the Takéo region. The main products are cattle, seeds, silk, cocoons, linen, tobacco, indigo, and oil.

Long-xuyen is 48 km. from here and Phnom-penh about 100 km. Both places can be reached both by land and water.

Fleuve Antérieur—This river divides itself into many streams near Vinh-long, and it is navigable throughout the year for vessels of large size, its width being 500—1500 metres and its depth 18 metres. It is, in fact, the only navigable river between Saigon and Phnom-penh, in both dry and wet seasons.

Fleuve Postérieur—This river is much narrower and particularly adapted for the navigation of launches. A big ship can pass through it only during a short limited season. Its mouth is especially shallow, owing to the piling up of sand which is constantly accumulating. In the dry season it becomes as shallow as one metre deep.

Long-xuyen (82 km. by land) is the capital of the province of the same name, with 25,000 inhabitants, who live at the mouth of Rach Long-xuyen on the right bank of Fleuve Postérieur. The city is lighted by acetylene gas and is the administrative as well as the business centre of this region. The administrative section, called Binh-duc, with its wide, woody roads and its buildings of Hôtel de l'Inspection, court, post and telegraph office, hospitals, schools, and other offices and residences, is separated by Rach Long-xuyen from its business quarter, called Ny-phuoc. The two sections thus separated by the river are connected by a large steel bridge called Henry Bridge. The business quarter is quite a prosperous one, with a large market place. The products of the region are fish, paddy, silk, and other things. Seventy km. along Rach Long-xuyen is Rachgia, the capital of Rachgia Province.

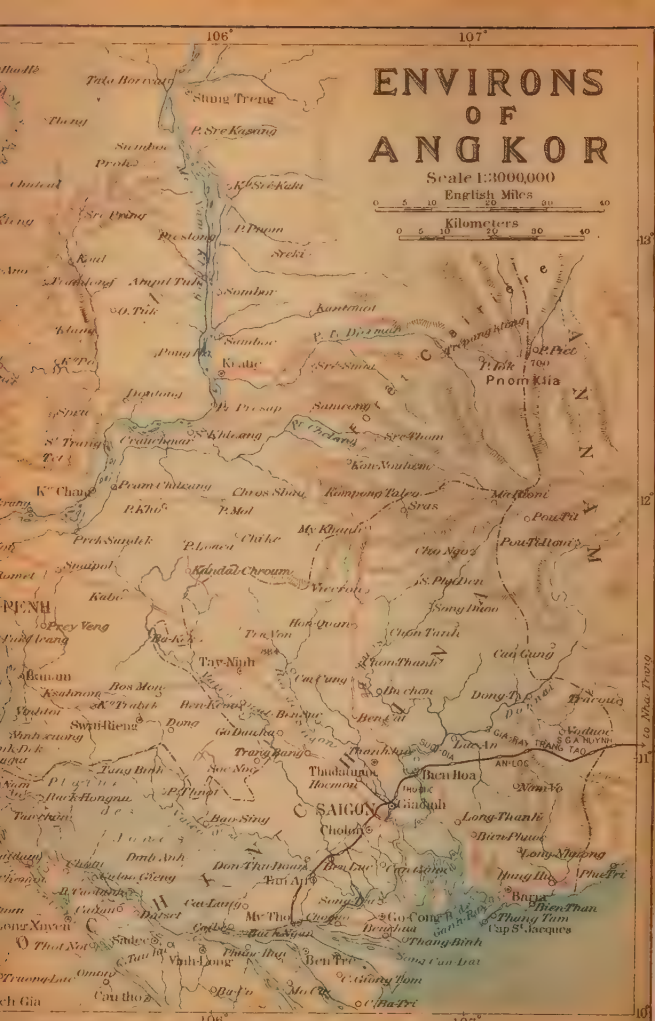
Cantho (151 km.) situated on the right bank of Fleuve Postérieur, is the capital of the province of Cantho. It is also an important business city. Some parts of it are lighted by acetylene gas, and it has a local government building, a distillery, a large market built of brick, a fish market of iron structure, a number of stores and restaurants managed by Chinese and Annamese, a bungalow hotel under French management and subsidised by the government of the

province, a post and telegraph office, a court house, hospitals, churches, and other attractive buildings. Most of its houses are of brick roofed with tiles. The city is a port of call for the western line of the M F. Co. Its steamers call here three times a week, and besides it there are both the M.F. Co. and Chinese launch service, operating between this city and My-tho every day except Sunday. The chief product of the region is paddy, the annual export value of which reaches $2,000,000. The next important product is fish, the annual export value of which is $15,000.

Dai-ngai is a little town at the mouth of the Ba-xuyen, on the right bank of Bassac River. It has a fairly large market and is the terminal port of the western line of the M.F. Co. Formerly, it was the capital of the Prefecture of Vinh-dinh and had a military port. The chief product of the region is rice. It produces also fruits and vegetables. There is an hotel and restaurant run by a native.

THE VAT-NOKOR ROAD.

103°
104°
105°
13°
12°
11°
10°
Sisophon
Mongkol Borey
Krelanh
Ampil
Angkor
Tonle Krassang Phnom
Siem Reap
Battambang
Kbal Damrey
Kiem Doc
Kbal Tol
Dontri
Pursat
Anlong Thnot
Pream Bang
Kobel
Ks Thom
Prang
Kg Chhang
Chombang
Kdol
Trasaut
Anlong Thlong
Bang Pong
Pirhalu
Thpong
Koh Kong
Kg Krouch
Kg Saba
Koh Samit
Thanong
Sre Umbel
Pong Rok
Takeo
Popet Pok
Koh Rong
P Kamchay
Kampot
Koh Rong Sam Lem
Koh Tang
I. Phu Quoc
Ha Tien
Ha Trai
C. de la Table


ENVIRONS
OF
ANGKOR
Scale 1:3000,000
English Miles
0 5 10 20 30 40
Kilometers
0 5 10 20 30 40
106°
107°
Pnom Kla
SAIGON
Cholon
Thudaumot
Hocmon
Bien Hoa
Gia Dinh
Tay-Ninh
Ben Cat
Thu Dau Mot
Long Thanh
Baria
Cap St. Jacques
Thang Tam
Go-Cong
Mytho
Cai Lay
Vinh Long
Ben Tre
Cantho
Soc Trang
Bac Lieu
Rach Gia
Ha Tien
Chau Doc
Long Xuyen
Sadec
Tan An
Thap Muoi
Kompong Thom
Kompong Chhnang
Pursat
Battambang
Pailin
Krakor
Kompong Luong
Kompong Tralach
Kompong Chhang
Kompong Thmar
Kompong Trabek
Kompong Speu
Kompong Som
Kompong Cham
Kompong Siem
Kompong Thom
Kompong Kdei
Kompong Svay
Kompong Leav
Kompong Krabei
Kompong Kantout
Kompong Kantuot
Kompong Kantuol
Kompong Kantuor
Kompong Kantuon
Kompong Kantuop
Kompong Kantuos
Kompong Kantuot
Kompong Kantuou
Kompong Kantuov
Kompong Kantuow
Kompong Kantuox
Kompong Kantuoy
Kompong Kantuoz
Kompong Kantva
Kompong Kantvb
Kompong Kantvc
Kompong Kantvd
Kompong Kantve
Kompong Kantvf
Kompong Kantvg
Kompong Kantvh
Kompong Kantvi
Kompong Kantvj
Kompong Kantvk
Kompong Kantvl
Kompong Kantvm
Kompong Kantvn
Kompong Kantvo
Kompong Kantvp
Kompong Kantvq
Kompong Kantvr
Kompong Kantvs
Kompong Kantvt
Kompong Kantvu
Kompong Kantvv
Kompong Kantvw
Kompong Kantvx
Kompong Kantvy
Kompong Kantvz
Kompong Kantwa
Kompong Kantwb
Kompong Kantwc
Kompong Kantwd
Kompong Kantwe
Kompong Kantwf
Kompong Kantwg
Kompong Kantwh
Kompong Kantwi
Kompong Kantwj
Kompong Kantwk
Kompong Kantwl
Kompong Kantwm
Kompong Kantwn
Kompong Kantwo
Kompong Kantwp
Kompong Kantwq
Kompong Kantwr
Kompong Kantws
Kompong Kantwt
Kompong Kantwu
Kompong Kantwv
Kompong Kantww
Kompong Kantwx
Kompong Kantwy
Kompong Kantwz
Kompong Kantxa
Kompong Kantxb
Kompong Kantxc
Kompong Kantxd
Kompong Kantxe
Kompong Kantxf
Kompong Kantxg
Kompong Kantxh
Kompong Kantxi
Kompong Kantxj
Kompong Kantxk
Kompong Kantxl
Kompong Kantxm
Kompong Kantxn
Kompong Kantxo
Kompong Kantxp
Kompong Kantxq
Kompong Kantxr
Kompong Kantxs
Kompong Kantxt
Kompong Kantxu
Kompong Kantxv
Kompong Kantxw
Kompong Kantxx
Kompong Kantxy
Kompong Kantxz
Kompong Kantya
Kompong Kantyb
Kompong Kantyc
Kompong Kantyd
Kompong Kantye
Kompong Kantyf
Kompong Kantyg
Kompong Kantyh
Kompong Kantyi
Kompong Kantyj
Kompong Kantyk
Kompong Kantyl
Kompong Kantym
Kompong Kantyn
Kompong Kantyo
Kompong Kantyp
Kompong Kantyq
Kompong Kantyr
Kompong Kantys
Kompong Kantyt
Kompong Kantyu
Kompong Kantyv
Kompong Kantyw
Kompong Kantyx
Kompong Kantyy
Kompong Kantyz
Kompong Kantza
Kompong Kantzb
Kompong Kantzc
Kompong Kantzd
Kompong Kantze
Kompong Kantzf
Kompong Kantzg
Kompong Kantzh
Kompong Kantzi
Kompong Kantzj
Kompong Kantzk
Kompong Kantzl
Kompong Kantzm
Kompong Kantzn
Kompong Kantzo
Kompong Kantzp
Kompong Kantzq
Kompong Kantzr
Kompong Kantzs
Kompong Kantzt
Kompong Kantzu
Kompong Kantzv
Kompong Kantzw
Kompong Kantzx
Kompong Kantzy
Kompong Kantzz

Route XIX. From Saigon to Angkor.

Fares and other Expenses: The steamship operated by the M.F. Co. leaves Saigon for Angkor once a week (Thursday). When the number of applicants is large, a special temporary service can be secured. Tourists can choose either of the following two ways:

(1) Free travelling—Each traveller may travel independently as suits his convenience. The steamer fare is about $30. That of the ferrys boat (a Chinese sampan) from the wharf to Siem-reap is 50 cents. That of the ox-car which the traveller has to use daily after landing is $1 a day. The Angkor Hotel offers its rooms free of charge and the visitor, if he chooses, may cook for himself, taking a cooking outfit with him or renting it. Or, if he prefers, he will be served at the rate of 50 cents for breakfast, $2.50 for luncheon, $3 for supper, making the total expense of boarding $6 a day.

(2) Contract travelling—The entire travelling arrangements will be entrusted to the steamship company, which, out of 245 frs. advanced by each traveller, will pay the steamer fare, the expenses of twenty-four hours' stay in Phnom-penh, the fare of the ox-car, the boarding expenses at the Angkor Hotel, and all other prescribed expenses. The length of excursion is limited to eight days, from the evening of Thursday to the morning of the following Friday week. Those who wish to prolong their stay at Angkor may do so by paying $8 extra for each additional day.

Precautions: Most of the travelling being by steamer, passengers should provide themselves with books or some other means of diversion. Since, according to the French custom, only two meals are served a day, those who are not used to this custom should carry some food with them. On the river, during December and January, there is always a cool breeze, and it is rather cold at night. Some covering is, therefore, necessary. The steamer usually carries many deck passengers, who loiter around the cabins day and night, often making annoying noises that disturb one's sleep. Cabin passengers, unfortunately, must be prepared to endure it. On reaching the great lake (Grand Lac), one has to transfer to Chinese sampans, which go farther up the Siem-reap. On landing, one has to ride on ox-cars, which run through mud and dust. One must, therefore, be dressed accordingly. It is also advisable not to take any very large luggage, but camera enthusiasts should be provided with as many films as possible, for E. of Saigon they are unobtainable, and the beautiful scenery of the surroundings will constantly be appealing to one's desire to record it. Angkor is also a very good hunting region, and those who are fond of this sport should be sure to take guns with them. The only language spoken is French. Travellers will not be able to make themselves understood in any other language. Those who cannot speak French should be accompanied by a guide.

While stopping at Angkor, one is in forests cut off from the modern world. For this reason it is necessary to provide oneself with medicine. It will be wise to take a dose of quinine daily as a precaution against an attack of malaria. For the journey a white cotton suit will do, but until one returns to Saigon there will be no chance of having it washed.

From Saigon to Phnom-penh:

Travellers going to Phnom-penh may take the steamer of the M.F. Co., which leaves the Saigon wharf at nine o'clock on Thursday and goes down the River Saigon to the sea and then enters the River Mekong, or they may leave the Saigon Station by the train

which starts at 6 a.m. on Friday, and, after running 71 km. in two hours, arrives at My-tho, where they will wait for the steamer that left Saigon the previous evening. One can thus save one day of monotonous voyage on board the steamer, but, as the time of arrival of the steamer at My-tho is irregular, travellers by train must sometimes wait half a day for it. From My-tho, the steamer runs all day up the calm waters of the great Mekong. Up to Phnom-penh, the river is navigable by a steamer of seven to eight hundred tons, and the company uses one of this size. Its cabins are fairly well equipped, and, but for the annoyance caused by the deck passengers, the voyage is enjoyable. In particular, the grand scenery on both sides of the river will pleasantly absorb the attention of the passengers. The Mekong has its source in the mountains on the borderland of Tibet, and, as it enters the plain of Cambodia, its many streams unite and run in a wide flow. One or two miles of its bank are thickly overgrown with coconut-palms, cotton-trees, betel-palms, tamarinds, and other tropical trees, and thatched native houses appear here and there in the shade of trees. It has many small branches running into it through bushes and reeds, and where two or three branch streams join at the same place, there it expands to a great width, sometimes as much as four or five miles. And sometimes one meets quaint Cambodian boats coming down with their sails full with wind. The whole scenery is interesting, and the oriental tropical colouring of water and sky, that one observes while seated on deck, will surely dissipate the tedium of the voyage.

Leaving My-tho, the steamer passes by Vinh-long, Sadec, Tan-chau, Vinh-xuong, Vinh-loi, and Banam, and arrives at Phnom-penh in the morning or in the afternoon (not later than four o'clock) of Saturday. Here, all the contract passengers will be conveyed to the Grand Hotel de Phnom-penh situated near the wharf. One stops here overnight and on the following morning leaves for Angkor.

The City of Phnom-penh.

Arrival: Besides the above-mentioned regular steamer, there are two other boats operated by the M.F. Co., which leave Saigon on Tuesdays and Saturdays and arrive at Phnom-penh after from thirty-two to thirty-six hours' voyage, according to the condition of the river water. For conveyance in the city, rikishas and horse carriages are available. Rikisha—12 cents for a short distance, 20 cents per hour with 15 cents extra for each additional hour. 40 cents for a trip round the city. Horse carriage—20 cents for a short distance, 50 cents per hour, 80 cents for a trip round the city. For suburban communication, there is a ferry boat from Phnom-penh (Rue Praire and Quai Norodom) to Chrui-changva and Arey-khsat—8 cents for a person, 30 cents for a horse. One-half of this rate is charged to Arey-khsat. For long distance communication, the ox-car, carrying both passengers and luggage, is available—$1 a day.

Hotel and Restaurant—Grand Hotel near the wharf of the M.F. Co. It charge $6. to 8. a day, including both board and room. Café Khmer, Rue Praire.

General Description of the City.—Phnom-penh is the capital of Cambodia, situated in 11°25′ N. lat. and 104° E. long., on the right bank of the Mekong at its confluence with the Tonlé-

sap and 280 metres distant from the sea. The river soon divides itself into two branches (Fl. Intérieur and Fl. Postérieur). Thus situated near the four branches of the river, it is sometimes called 'the city of four rivers.' Its population is 74,000 (33,000 Cambodians, 21,000 Chinese, 18,000 Annamese, and 700 Europeans). Being located between Cochin-China and the N. district (including Cambodia, Laos, Burma, and a part of Siam), it draws and exports to Saigon all the products of these regions, such as fish, cotton, indigo, cardamon, rattan, lumber, lacquer, tobacco, sugar, leather, etc.

The city extends in a N. to S. direction along the river and is divided into three districts: (1) the European district, which is thoroughly European in style, having several large buildings, among which are the office of the French resident and other French official and mercantile houses, (2) the natives' district, filled with small houses inhabited by both natives and Chinese, (3) the citadel district, which is the central part of the city and contains the palace of the king and many official and residential buildings. Each district is separated from the others by a ditch across which are six bridges. The whole city is surrounded by a canal, and beyond the canal are four large villages all inhabited by natives. That to the N. is called Village Catholique de Rossey-kéo and has a cathedral. That to the S. is called Village de Takéo and has a slaughter-house. That to the E., on the other side of the Tonlé-sap, is a great market place called Chrui-changva, where there are an electric and a water company. That to the W. is called Village Bac tuc, and from here the greatest road of Cambodia runs to Kampot.

Until twenty years ago, Phnom-penh was a narrow and dirty city, but since the French government began to control it, it has been greatly improved. A French engineer, Fabre, was appointed for the task of remodelling it. Under his efficient supervision, the streets were widened, planted with trees, and provided with separate ways for vehicles and pedestrians; most of the small, unsanitary houses were torn down, and electric and water services were systematically installed. During the rainy season, that is from May to October, the city was frequently flooded, and sometimes the flood was so deep as to immerse the whole city except the tops of its hills. Thanks to the efforts of the French government, flood disasters are now greatly reduced.

Phnom-penh became the capital of Cambodia about the year 1860, in the time of King Norodom, who came to the throne first at Oudong and later removed his capital to this city.

Public Buildings.—Hôtel du Résident Supérieur (the office of the resident superior); Résidence de Phnom-penh (the executive office of Phnom-penh); Trésor (treasury); Direction des Douanes (custom-house); Bureaux des Postes et des Télégraphes (post and telegraph office), Rue du Protectorat. Hôpital (hospital). Casernes de l'Infanterie (infantry barracks); Chambre du Commerce et de l'Agriculture (the chamber of commerce and agriculture); Musée (museum); Cathédrale (temple).

Markets, Banks, etc. Banque de l'Indo-Chine, agence à Phnom-penh (bank of Indo-China, Phnom-penh agency); Cie des Messageries Fluviales de Cochin-chine, agence à Phnom-penh (M.F. Co., Phnom-penh agency). Automobile garage—Ippolito.

There are three markets in the city, the most important being situated in the centre of it.

Clubs.—The club-building is situated at the corner of Quais Verneville and Lagrandière. Even temporary visitors are admitted on the introduction of two of its members. It has a restaurant and a library. There are also the Société Hippique (Horse-Race Club, races being held four times a year between February and April) and the Société d'Angkor, (the Angkor Society, devoted to the preservation of various monuments of Angkor and to the dissemination of all information about Cambodia).

Places of Interest.

The Palace of the King.—The palace stands at the S. of the city. It is surrounded by a rectangular wall one kilometre long. At the main entrance there is a triumphal gate (Porte de la Victoire), which opens towards the river. On festival days, various kinds of show or play or procession can be seen in the main street. To the right of the gate is the palace commissary's office (Bureau de l'Intendant du Palais). On presenting his card at this office, a visitor will be given a permit to enter the official quarter and will be conducted by a guide. The private quarter is not open to visitors.

Inside the wall is a paved court surrounded by a sort of cloistered gallery, in which are kept pictures depicting various anecdotes of heroes. Flanking its entrance are two big mausolea in which are preserved the remains of Ang-duong, the ancestor of King Norodom, and also of his consort Pen. In the centre of the court stands the famous silver pagoda (or Vat-Prah-Keo, meaning the emerald temple). It is built after the style of the palace of Bangkok. Its roof is pointed and rises to a great height, and its foundations are surrounded by a stone stairway. Entering its room from the front stairway, one observes that the entire floor of the large room (36 ft. wide and 120 ft. long) is covered with pure silver, which appears blackish in the dark but reflects with shining brightness the sun's rays that creep in from the outside. On its high walls are painted in brilliant colours various scenes in the life of Buddha and horrible spectacles of hell. In the centre of the room stands an altar, on which are set all kinds of images. An emerald image of Buddha set on a golden pedestal a little higher up than the rest is the guardian spirit of this palace. But far more brilliant than this is a golden image set at one side of the altar. It was made by the preceding king, Norodom. It is said that the height of the image, six feet, was the natural stature of the king, who, therefore, must have been a tall person. The image is inlaid with diamonds, from which emanate the brilliant light that envelops the body. The

cost of the gold alone is estimated at $660,000. Indeed, the whole edifice is a monument into which the king poured all his wealth and ambition. Around the altar are many glass boxes containing treasures of the royal family, such as a golden crown and an arm ring inlaid with diamonds. The covers of these boxes are simply sealed with pieces of paper, on which is stamped no royal mark. They have never been locked and yet nothing has ever been stolen. The reason is simple. All Cambodians regarded the king as the representative of God on earth. To them nothing could be more heinous than stealing from the abode of God's earthly representative. With all their religious instinct they worshipped the king and guarded his palace. The royal family was, indeed, the centre of their religious as well as their national life. The phrase 'the kingdom of the yellow robe' is more applicable to Cambodia than to Siam. In front of the W. side of this room is a statue of the king on horseback. Farther back on the E. side is a room in which are kept various offerings. On its N. side is a library, and on its S. side is a foot-print of Buddha. It is said that Buddha once visited Cambodia and left his foot-print at this place. Over the place has been built a small dark edifice, the floor of which is four feet long and two and a half feet wide and plated with gold. An old monk guards it, burning incense all day long. It is also said that King Sisovat offers prayers every morning in this room. As visitors stand between these edifices and look upwards, they will observe that the sky is pierced by the pointed roofs of all these buildings and that the variegated colours of their tiles present a strange harmony of beauty against the azure sky. They will feel that they are in a dream land.

Proceeding now from the N. gate to the outside of the court, visitors will see there various palaces. The most notable of them is the throne hall, which is a large room painted uniformly green, with a minutely curved throne in its centre. At its N. side is a festival hall (Salle des Fêtes), where once the famous Cambodian dancing used to be performed. At present, the dancing takes place in a large new French building on the N. side of the jewel factory (Ateliers loyaux), which stands next to the Salle des Fêtes. This new dancing hall consists of two stories. The lower story is built under the ground and is used as dressing and store rooms. Dancing takes place in the upper story, which is a wide hall built entirely of marble. The spectators' seats are built around it. Besides a throne, there are seats for French officers, native officers, and the people of the rich upper class. The seats on one side are reserved for the general populace. Only the priests, who form in Cambodia a class of considerable influence and numbers, are debarred from attendance, in obedience to the moral tradition of their religion. Dancing, however, has ever been a great institution of Cambodia. Every king chose two hundred and forty beautiful girls from the daughters of the upper class people and had them trained for dancing. It has a tradition of two thousand years' standing and still adheres faithfully

to its classical examples, which are depicted on the walls of the various buildings of Angkor, such as the dancing of the goddess Apsaras, her gestures and her dress. The subject matter of it was taken mostly from the poem of Rāmāyana. If visitors should be fortunate enough to obtain permission from the French regency to witness one of these performances, they will feel that all their time and money spent in this tour are amply repaid by this rare entertainment. At the back of the throne hall is the king's living room, and behind it is the living room of his consort and dancing girls. Near it is another edifice two stories high, in the upper story of which is kept the sword of the royal family, which has been handed down for two thousand years. It is a long and big sword, awk-

PAGODA OF PHNOM-PENH.

wardly fashioned and without decoration, but consecrated by its long history. By the way, in Cambodia a king is not succeeded by his son, but by his brother, who may consequently be an old man when he comes to the throne. The present King Sisovat is seventy-seven years old. In the jewel factory mentioned above visitors can purchase jewels, pictures, silk cloth, silver wares, and other decorative articles, which are of crude workmanship, but interesting as souvenirs. Outside of the palace, near the gate of departure, is a barricade (*Kraal*) in which are kept many white elephants. These elephants are placed at the disposal of royal guests and other guests of honour, who may ride on them when going to or from the palace.

Le Phnom (meaning 'mountain') is a hill, 27 metres high, commanding an excellent view of the city and its surroundings. On its summit stands a temple with a high tower. The interior floor

of the temple is laid in mosaic. In the centre of it is a throne, on which is set an image of Buddha. The stairway that leads to the sanctuary is decorated on both sides with the design of Nâga. The foot of this hill has been made into a park, which is thickly overgrown with big trees and traversed by many beautiful walks. Its area is about 10 hectares. Many indigenous birds are kept within it, and there is also a band-stand, where the royal band often gives a concert. At about the middle of the hill stands a bronze statue of King Sisovat. At the end of the park is Pont des Nâga, an elegant bridge with the design of Nâga, built in 1894.

The Museum is situated near Collège Sisovat at Quai Lagrandière. Here are exhibited countless specimens of the ancient artistic work of the Khmer. It was built in 1909 and is open daily from 8 to 11 a.m. and from 3 to 6 p.m. Its catalogue can be obtained for three francs a copy. The exhibited articles may be roughly classified into three groups: the first group comprising the works of the primitive age of Angkor (from 6th to 9th century), the second group those of the classical age of Angkor (from 9th to 14th century), and the third those of the later decandent period. Those who are interested in the architecture of Angkor should also carefully study these works of Cambodian art.

From Phnom-penh to Grand-Lac.

The boat bound for Angkor leaves the wharf of Phnom-penh at eight o'clock in the morning. From here up, the river is narrow and shallow and the boat used is much smaller, being of only two or three hundred tons. As usual, it carries a conglomeration of deck passengers, comparising Cambodians, Annamese, Hindoos, Siamese, and Chinese. In a short time after leaving the wharf, the boat turns to the left and enters the Tonlé-sap, which connects the Mekong to the Great Lake and is over one hundred km. long. In June and July when the rainy season is at its height, all the streams that pour into the Great Lake swell its waters, which in turn flow into the Mekong through the Tonlé-sap. After the middle of October, when the rainy season closes and dry bright weather continues without interruption, the water of the lake keeps on flowing into the Mekong, and by the end of January it will have emptied itself. After that, the reverse process sets in, and the water of the river begins to flow into the lake. Visitors to Angkor, therefore, should plan to make their trip between the beginning of November and the end of December, when the water of the lake will not have entirely flowed into the sea.

As the boat enters the branch stream of the Tonlé-sap, passengers will notice that here the scenery is very different. Instead of the wide, calm expanse of the Mekong, they will see a shallow stream only two hundred yards wide, hemmed in by irregular edges of the banks with bushes and reeds growing in the water along them. The boat runs up the stream in a zig-zag fashion, seeking a deeper

channel, and as it goes it causes waves on both sides, which spread out to the edges of the bank, making a rippling sound and disturbing the sleep of birds among the bushes. Startled from their slumbers, they fly up in flocks, some as white as snow and some as black as jet, occasionally with patches of red combs among them. There are also to be seen flocks with varied plumage, shining brilliantly in the tropical sunshine. Passengers with cameras will be busy trying to secure pictures of this unique sight. At any rate the day will end quickly. The passengers will also observe on the bank quaint native dwelling houses and some old Cambodian temples appearing between the branches of trees, and also native boats moored among the bushes and fishing nets hung on trees. Observant passengers will not have missed the sight of large fish, measuring six feet or more in length, cut open and hung on trees to dry. Sometimes one will see groups of monks with shaved heads and dressed in yellow robes, resting in the shade of the bank. They have consecrated themselves ever since their boyhood to the service of the salvation of their own souls as well as those of others. Every morning from five to seven o'clock they go round begging at the doors of laymen, and the rest of the day they are supposed to devote to the study of their sacred book. Instead, you will see them more often sleeping than studying. However, the sight of shaved heads and yellow robes is one that meets one's gaze everywhere in Cambodia.

The boat will pass by Kompong-luong, the old capital of Oudong, and at some time in the afternoon will reach Kompong-chnang, which is called the 'Venice of Cambodia,' being a city built on the water. Going farther up, it passes by Snoc-trou and comes to the entrance to the lake.

Grand-Lac (The Great Lake) is situated towards the N. W. of the centre of Cambodia. Its length from the S. W. to the N. E. is 140 km. and its width is about 30 km. The boat coming from Cochin-China passes by Kompong-chnang and enters the lake from its S. end, and then crossing it reaches Siem-reap at its N. end. On its W. side are such cities as Battambang and Pursat. From its S. end flows the Tonlé-sap, which, after running a distance of about 100 km., reaches Phnom-penh where it meets the Mekong. During the rainy season its waters swell, until they cause a flood all over the lower region, but in the dry season they shrink, till a depth of only one metre remains, while here and there elevated spots of the river bed appear, projecting above the water like islands. One will even see grass growing on them. The lake produces a large quantity of fish, which is exported to various points of Cochin-China, their total annual export value amounting to 2,000,000 francs. By the time the boat enters the lake, the sun will have sunk below the horizon. Passengers spend the night on the lake, and on the following morning, about six o'clock, when they awake, the boat will be anchored at the mouth of the Siem-reap. Here they will be transferred to sampans of Chinese style.

Route XX. The Ruins of Angkor.

Time of Visit. The best season in which to visit the ruins of Angkor is between the middle of October and the end of January, soon after the end of the rainy season of Cambodia, which lasts from July to October, for then the rain water, that has swelled rivers and lakes and inundated the surrounding regions, still remains in a sufficient quantity to render navigation easy. Later than that, most of the water will have flowed into the sea through the Mekong River, and the resulting low level of the water will make navigation difficult, and in some places utterly impossible. Visitors should remember that the means of travel will differ more or less according to the different seasons. The best time, as above explained, is immediately after the rainy season. After February, they must depend on land communication, which is hard and slow.

Arrival. Starting immediately after the rainy season, visitors will go up the Tonlé-sap by steamboat and cross diagonally the Great Lake to the mouth of the Siem-reap. Here one transfers to a Chinese sampan (a boat roofed with straw, manned by about four rowers, and capable of carrying about ten passengers), which will take one through a marshy place into the river. The stream is seventy or eighty metres wide at its mouth and becomes narrower as one goes up. In the season of high water one can approach the city of Siem-reap, but, as the season advances, boats have to stop near the mouth of the river. After going up for about two hours, leaving Phnom-krom on one's left, the boat stops by the right bank at an open spot among bushes. Landing here, one will be met by an automobile, if ordered beforehand; but if not, one can find plenty of ox-cars ready to carry passengers. These vehicles are rough wooden carts, without springs, drawn by two oxen, and carrying only two passengers, the driver sitting on the pole with his feet dangling below. The cars proceed across a marshy ground and come out on an open meadow, then, threading their way through bushes, they emerge on the bank of the Siem-reap, which is crossed by a rough wooden bridge. They then run along the right bank of the stream, passing through villages dotted with tiny houses, most of which are Chinese and decorated with red, blue, or yellow placards inscribed with classical phrases. All along, the path is shaded by thick branches of trees, haunted by millions of birds. After about two hours' ride, one will come to the city of Siem-reap.

Siem-reap is a small town with a population of 1,000, but it is fast becoming a prosperous place, owing to the rapidly increasing influx of visitors. It has a post-office and the office of the French Resident, who will furnish one with valuable information about the trip. Passing through this city and running along the stream for about 6 km., one enters once more into a village of scattered houses—the town of Angkor. At the W. gate of Angkor-Vat is a little tavern called Sālā (a bungalow hotel) built by the French government. Travellers must of necessity stop here. Here they can rest and change their clothes and prepare for the tour of the sacred monuments.

Hotel. Near the front of Angkor-Vat is a bungalow hotel with accommodation for thirty people, each apartment being equipped with a toilet room and a bath room. Its dining room contains a small library. It is open throughout the year, but actually run by

its European manager only during the season between the middle of September and the middle of January, while for the rest of the year it is entrusted to a native keeper, who will rent its rooms and equipments according to the special demands of guests. The rates are eight dollars and up per day. During the season its restaurant is open, *tariff*: 50 cents to $1 for breakfast, $2.50 for luncheon, $3 for dinner. The charges for the use of its equipments are as follows: 40 cents for a set of mosquito nets, 10 cents for a set of cloths to cover dishes with, 30 cents for kitchen utensils per day, 30 cents for dishes, spoons, knives, etc., 30 cents for a table cloth. Upon request, a guide who can speak French may be secured.

Historical Sketch.—Angkor is the old capital of the Khmer Dynasty. It was founded in the first century of the Christian era by immigrants from N. E. Burma, who conquered the whole region and became the ancestors of the present Cambodians. Their military influence dominated the surrounding countries for several centuries. While their native country, India, was

suffering both from internal disruption and foreign attack, this new colony of theirs was enjoying a glorious peace of military achievement. Indian civilization, transplanted into this new kingdom, flourished in all its luxurious splendour, and, after several centuries of nurture, developed the art of Khmer. The monuments of Khmer, now in a state of ruin, are the crystallizations of this splendid art.

The building of these monuments seems to have been begun as far back as the 9th century. During that century, Jayavarman II. built the temple of Prah-Khan, which became the source of inspiration of all his successors, who followed his worthy example and vied with one another in clearing forests and building in their stead palaces and temples and decorating them with the best religious art the genius of the time could execute. By the 14th century, when, driven out by their strong western neighbour, Siam, they were compelled to remove their capital to the S., the whole of the forests of Khmer had been converted into a vast area of temples, the grandeur of which, even now in their sad state of ruin, commands the admiration of visitors. Indeed, the art of Cambodia, embodied here in these monuments, deserves a unique place in the history of the art of the world. These monuments we will describe below in the order of the periods of their building.

As stated above, the first building undertaken was that of Prah-Khan, built by Jayavaman II. (802–869 A.D.) but the beginning of the building of the great capital on a grand scale was in the time of Çri Yaçovarman (880-908 A.D.), who was called the King of Kings and who undertook the building of Angkor-Thom. Ten square miles of forests were cleared, and a plan of a great royal city capable of holding a million of his subjects was drawn out. It was surrounded by a moat designed to draw and hold river water, and again it was enclosed by a wall, which was pierced by five gates and four highways that led to the interior of the city. In the centre of it rose the tower of Bayon high in the sky. Its walls and pillars were richly decorated with the best religious art of the time. The monument stood and still stands, though half in a state of ruin, as the greatest symbol of the art and the luxury of the Khmer Dynasty. The king called it Yaçodharapura, or the town of Yaçodhara, and boasted that it was impregnable and indestructible. His ambition was not satisfied with Bayon and he undertook many other constructions, the most notable of which was a great pond at the E. of the city. This pond was filled with water drawn from the Siem-reap and beautifully planted with lotus. No doubt it was once a great sight, but now it is dried up and overgrown with weeds, presenting a sad scene of desolation. Even so, the road that ran along its bank still remains, marking the bounds of its ancient glory. By its side the king set up a monument, on which is inscribed in Sanskrit a long eulogy of his deeds. He also started the building of Phimeanakas; but his life was cut short, and his successors carried on his work, merely adding many edifices to beautify the city. The name of King Çri Yaçovarman will remain in the history of ancient art as long as Angkor stands.

Jayavarman V., his brother, was obliged to abandon this magnificent city, and he established his capital at Chok Gargyar. In the time of Rajendravarman (944-968 A.D.), the city was restored and the king was able to return to Angkor, which he further beautified with houses and palaces decorated with gold and precious stones. In the time of Jayavarman V. (968-1002), the son of Rajendravarman, Baphuon was built. The king also began the building of the temple of Takéo, which he left unfinished. His successor, Suryavarman, carried on the work and completed it. Of all the magnificent edifices that turned the forests of Angkor into a brilliant city, the greatest is the temple of Angkor-Vat. The honour of its construction is largely due to King Suryavarman II (1112-1152 A.D.), who designed its plan and most of its decorations. It was, however, too big an undertaking to be completed in the lifetime of one king. More detailed decorations of its various parts were left to his successor, Jayavarman VII. Even this king could not complete it all, and many bas-reliefs of its walls are left unfinished. Jayavarman VII. also undertook the building on the temple of Ta-Prom, which, together with two small monuments of its triumphal gate, represents one of the latest buildings of Angkor. With him closed the brilliant age of the Khmer Dynasty. The later kings seem to have been satisfied with the mere repairing of these great monuments. They showed none of the creative energy of their predecessors, but

that they were diligently engaged in the work of renovation is shown by the memorandum of a Chinese minister, who visited this place in 1283 and was pleasantly impressed by the clean and systematic upkeep of all these buildings.

With the closing of the age of the architectural glory of the Khmer Dynasty came also the beginning of the decline of its political power. The army of its western neighbour, Siam, was already pressing near the walls of Angkor. At last the Siamese succeeded in driving out its inhabitants and occupied the city, installing a king of their own race, and renaming it Nokor Luong. Later it was once more restored to the Khmers, only to be wrested from them permanently from the end of the 14th century. Since then all these magnificent monuments have been left to the mercy of the elements and trodden under the feet of wild beasts.

Angkor-Vat.

General Description. The monument of Angkor-Vat is the most typical one of the architecture of ancient Cambodia and is comparatively well preserved. For these two reasons, and also for the reason of its accessibility, it draws yearly the largest number of visitors. As has already been said, all the monuments of Angkor, left uncared for since the 14th century, have suffered the devastating effect of time, and, hidden among forests, were almost unknown to the world, until 1910, when, by the Franco-Siamese treaty of 1907, they were again restored to Cambodia and means of communication were once more opened up.

In order to grasp the structural principles of the Khmer architecture, visitors should first see Angkor-Vat, in which these principles are best preserved and shown most clearly. The idea of the plan and the details of structure they get from this monument will guide them in estimating and appreciating the ancient grandeur of other monuments, now in a sad state of decay. Moreover, as this monument stands in front of the bungalow hotel, each visitor can examine it separately at leisure.

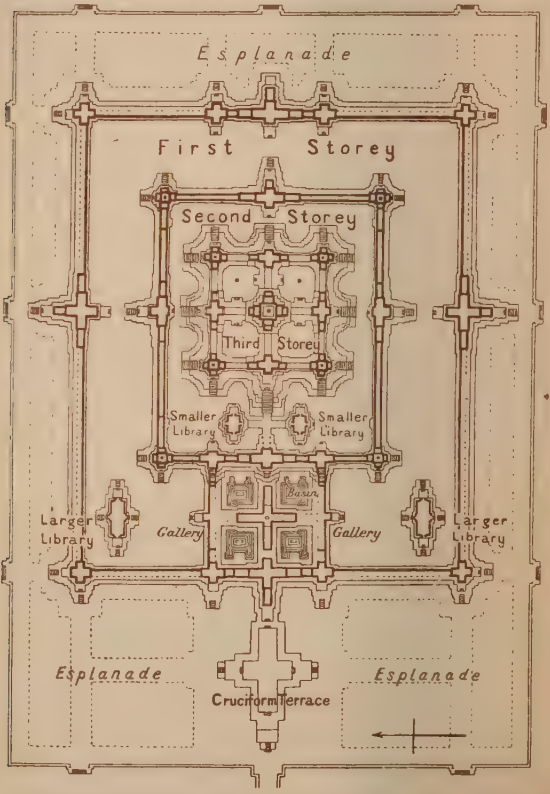
TERRACE BEFORE THE ENTRANCE TO ANGKOR-VAT.

Like other monuments of the Khmer Dynasty, the monument of Angkor-Vat is built of conglomerate and sandstone. Having been exposed to the mercy of the elements for nearly a thousand years, it has lost all the brilliancy of its original colours. Its walls and pillars are now grey with age, but the lasting and most valuable parts of its decoration, namely the bas-reliefs, in which the geniuses of the age embodied their artistic inspirations, still remain in all their original clearness and excite the admiration alike of archæologists, art-critics, and historians. Though now surrounded by forest trees and haunted by wild animals, it was once a seat of human luxury, enlivened by daily processions of officers and ladies of the Khmer Court. With its still impressive monument and such a thrilling history behind it, Angkor-Vat cannot fail to appeal to the imagination of visitors.

The monument, surrounded by a deep moat 200 metres wide and 5 km. long, stands like an island in the midst of a great lake. Its shape is rectangular, and it can be entered by a highway on its W. side (opposite the bungalow hotel), which is 12 metres wide and 250 metres long. This highway is damaged, its broken flagging leaving numbers of gaps. But thanks to the repairing work of the French government, it is kept in passable condition. Crossing the moat visitors come to the outer wall, around which runs an elevated road (berm), 30 metres wide. The wall is 3 km. long and in itself is a great architectural monument. It has a gate at each of its four sides, but except the above-mentioned highway on its W. side and a part of a causeway on its E. side there seem never to have been any other roads. A large part of the wall is taken up by a spacious portico composed of galleries, which consists of an inner wall, a central colonnade, and an outer and smaller colonnade forming a veranda. The wall and the pillars are thinly carved. On entering these galleries, visitors will become conscious of a strange smell. This comes from the horde of bats, that have settled there in hundreds of thousands. In the daytime they hang on the ceilings, sound asleep. If one enters with a light, they will wake up, fly about noisily, and attack one in swarms. Any considerable sound will also wake them, causing the same disagreeable annoyance. This can be endured perhaps, but the smell of their excreta that once covered the floor is intolerable. Thanks again to the efforts of the French government, they are now mostly driven out but the smell remains.

Crossing the wall and entering into the interior, visitors will be surprised by its spaciousness, with the tall main edifice projecting high into the sky. The famous great walk, raised about three metres from the ground, eight metres wide and four hundred metres long, built of layers of stones and bordered by the bodies of sacred snakes or Nâga, leads straight to the temple. On both sides of the walk there once stood various buildings and sculptures, but now only their traces remain, and except the trunks of old trees that grow here and there, there is nothing to obstruct the wide, open view. All the foundations of the buildings of Angkor are raised two

or three metres from the level of the ground in order to facilitate mounting, or dismounting from, an elephant. This walk was probably raised for the same purpose, and at every forty metres a small flight of steps leads down from it. At all events, it was admirably fitted for the procession of warriors and priests and court ladies.



On each side near the temple is an edifice, at the base of which on the E. is a large pond. Skirting these ponds, one reaches a

terrace that surrounds the temple. On it is a cruciform terrace. Climbing it by a stairway one comes to the W. entrance of the first gallery of the temple of Angkor-Vat. Here one is already within the famous edifice, and this first gallery is especially noted for the beauty of its bas-reliefs. Turning to the right, and observing its W., S., and E. sides, and coming round from its N. side to the W., one then enters the second gallery and then the third. And then finally one will observe the high tower of its sanctuary. In this sequence we offer here the following detailed description of this magnificent monument.

Entering the W. vestibule of the first gallery, one is in the first story of the building. This vestibule forms a cruciform corridor, and beyond it is a covered court-yard having four small ponds. The N. side of the court-yard has an entrance opening into a court that separates the first gallery from that of the second story. Its S. side also has an entrance, but this is blocked by heaps of débris. Within the enclosure formed by the first gallery are two small edifices, which are called libraries.

The E. to W. axis of the gallery of the covered court-yard leads to the gallery of the second story, which circumscribes the great court and has at each corner a tower, now almost destroyed. This axis, passing through the middle entrance of the gallery of the second story, further leads to the great sacred stairway (Escalier d'Honneur) at the front of the central structure (Massif Central,—meaning the third story together with its gallery and all its inside edifices). Between the middle entrance of the second story and the great stairway is a small cruciform passage or foot bridge, with a small edifice on each side.

The central structure is composed of the third circumscribing gallery with a conical tower at each of its corners, four flagged courts, a cruciform gallery, and a tall central tower that commands

Corner Porticos and Galleries, Angkor-Vat.

the entire monument. Around its sides there are 12 stairways, all except the great front stairway being narrow and hardly passable.

(a) ***The First Story.*** *The Court.*—This is not paved; it is merely hard pressed ground laid down level with the foundation stones of the outer wall, and its E., S., and N. sides are of the same width, but its W. side is much wider and has two libraries and a court-yard.

The Gates and Vestibules. The larger part of the W. side of the gallery of the first story is occupied by the central vestibule and its two small side vestibules, which contain seven rooms in all. Three of those belong to the central vestibule, at the entrance of which stands another room having six large windows, and in front of them is a gate reached by a stairway. The passage under the vestibule forms a cross of 16 metres N. to S. and 11 metres E. to W. The two side vestibules are much smaller and the cruciform passages under them are 10 metres by 7 metres. They have stairways leading to the park. The E. side of the gallery is similarly constructed, but the N. and the S. sides have only one vestibule each. The inside decoration of the vestibule is very simple, and, except for the carvings of the fighting parrots in the window frames and of some flower patterns around the image of Tévadas in the foliage, there is but little finished decoration. Above its wall, however, is a beautiful frieze with a carving of dancing girls. All three middle vestibules are covered, like the vaults of all the buildings of Angkor, by roofs having vertical pediments.

There is also a vestibule at each corner of the gallery, having the form of a square cross, the inside being lighted by six railed windows. It communicates with the outside terrace by two gates similar in construction to those of the middle vestibules. The walls of the N. W. and the S. W. corners are decorated in bas-relief, but the two others are without any decoration at all.

The Gallery of the First Story.—The gallery of the first story of Angkor-Vat is divided into eight parts by its middle and corner vestibules. The length of its E. and W. sides is 250 metres and that of its N. and S. sides is 187 metres. The total length of its circumference is 800 metres. It is built on a foundation ground three metres high, the upper edge of which is wide enough to form an encircling platform of the gallery. Each of the eight divisions of the gallery has a veranda running parallel with it along its outside. The verandas are joined to one another at each corner by the vestibule. Each consists of two rows of colonnades supporting its vault and also one end of the vault of the gallery, the other end of which is supported by the wall of the gallery. The whole arrangement is magnificent, and the bas-reliefs of the gallery are in particular a remarkable embodiment of the art of the Khmer Dynasty.

The bas-reliefs (beginning from the right side of the W. entrance).—*The W. Wall* (right side). The design of this immense bas-relief is taken from the tradition of Mahâbhârata. It represents a battle between the army of Pandavas and that of Kauravas in a great open field. The soldiers of Pandavas wear helmets with high crests and those of Kauravas conical caps: otherwise, they are similarly dressed and armed. There are many generals

and officers among them riding on horseback, or on elephants, or in cars, according probably to their ranks. The lower part of the scene is filled with heaps of dead or wounded soldiers.

The S. W. Corner. Its eight panels and tympans are decorated in bas-relief. The most interesting one is that of the left side of the S. gate, which represents a combat between two brothers Bâli and Sougriva. Other panels represent two junks with thatched roofs and bows carved to the shape of a bird's head, a scene taken from the legend of Krishna, and various other scenes.

The S. Wall (right side). The bas-relief of this section extends for a length of 100 metres and is of remarkable workmanship: it will well repay the careful study of historians and archæologists. It is divided into two scenes —one representing various attitudes of a queen and princesses at play and also the audience of a king on a hill, and the other a military review of various lords, who, surrounded by their followers, are marching in a grand procession. (Left side.) This represents the punishments and rewards of the future life, contrasting the terrible and gruesome scenes of hell with the peaceful and blissful surroundings of heaven.

The E. Wall (left side). Its bas-relief extends for a length of 49 metres and represents an imaginary scene of the churning of the sea. On the back of a great turtle in the sea stands Mt. Mandara. Its foot is entwined by a serpent, whose head and tail are pulled alternately by Devas and Asouras. As they pull, the mount turns round, churning up the sea and producing amrita (meaning delicious food). The lower part of the scene is filled up with fish and various sea-monsters. (Right side.) Its bas-relief extends to the same length as that of the opposite one, but the work is very much inferior and probably executed by later artists. The design is a combat between a god and a giant, the expressions of which are very unnatural and awkward.

The N. Wall (left side). The bas-relief of this section is not a finished work. It is left in the first broad outline. Its W. side represents an image of Çiva, and in about one-sixth of the length from its E. end is carved a large figure of Garouda. The rest is filled up with the army of Devas, marching in a regular procession, a band of musicians at the head. (Right side.) The bas-relief of this section is one of the masterpieces of the decorative art of Angkor and is well preserved. It represents a procession of twenty-one Brahman divinities, such as Kubera riding on the shoulders of Yaksa, six-faced Skanda on a peacock, Indra standing on the back of Airâvana, Vâruna on Nâga, etc.

The N E Corner. The bas-relief of this corner is very skilfully executed, but unfortunately a large part of it is sadly damaged. It represents a procession of monkeys followed by one of birds pulling a car in which Râma is riding.

The W. Wall (left side). This is an elaborate work and represents Vishnou, under the disguise of Râma and supported by Hanuman, waging a battle against Râvana, an evil god.

(b) ***The Second Story.*** The second story consists of a court, an encircling gallery, two small edifices, and a cruciform passage. The court is paved with sandstone. The width of its sides varies, the N. side being over 16 metres, the S. side 13 metres. The reason for this irregularity is unknown.

The Small Edifices.—The width of the W. side of the court, not including the foundations of the great central stairway, is 31 metres, and in the middle it is cut across by a small path, at each side of which stands a small edifice, communicating with the vestibule and the great stairway by a small cruciform passage. These two buildings, simply and roughly constructed, possess a quaint beauty. They have only one room each, which is surrounded by a double veranda. Its inside square pillars support a low impost, upon which was once a roof, which has now disappeared. Each side has an entrance, one opening to the small passage, another to the court, and those of the E. and the W. sides to their respective staircases.

Those of the S. and the N. sides are decorated with minutely carved square pillars and other smaller ones, which have now almost disappeared, leaving only same fragmentary traces. The whole edifice is built on a foundation ground 1½ metre high, and all its outer wall is ornamented with decorative windows. Each of its sides has a staircase, cut in a block of the foundation stones, and leading to its corresponding entrance. Though not definitely known, these buildings were probably used as the quarters of watchmen, whose duty it was to guard all the treasures kept in this monument.

The Passage.—At the front of the W. side of the court is a cruciform passage, better described as a foot-bridge, which connects the middle entrance of the second story with the great stairway and has elegant balustrades as the edges. At each end of the cross is placed a head of Nâga, merely for decorative purposes. This passage was roughly constructed and is now greatly damaged. It appears that it was not a part of the original plan of this monument, but was added later in order to provide a dry path in the court, which, owing to its poor drainage, became muddy in the rainy season.

The Encircling Gallery.—This gallery forms the bulwark of the court of the second story, and at each of its corners stands a tower. Some of these towers have fallen into ruins, and others appear as though left unfinished. Crumbled fragments of them are scattered in heaps in the court. That of the S. E. corner is in a state of utter ruin, but the heaped-up fragments left near by are not enough to be taken as the whole of it. Probably only a part of it was completed. On the other hand, the towers are decorated in each of their successive layers, and the character of the decoration seems to show that they were decorated after this whole structure had been completed. The gallery is built on a foundation ground about seven metres in height and is led to from the court of the first story by

Cruciform Gallery, Angkor-Vat.

stairways. The shape and the structure of the foundation ground is similar on all sides, except the W., which, being connected with a covered court in front, presents a more complicated appearance.

This gallery is composed of four sections or wings that meet at right angles under the corner towers. At the middle of each wing is a vestibule, which makes it appear larger. The side that faces the inner paved court is open, but the other side that faces the gallery of the first story is closed by a wall decorated with railed windows and mouldings. Each middle entrance has a beautifully sculptured pediment, and the small side entrances have lintels supported by colonnades. On the floor of the gallery are collected here and there numbers of statues of Buddha and Bodhisattvas.

The Covered Court.—(This term is rather a misnomer; it would be better called the cruciform gallery, which is avoided, however, in order to distinguish it from many others called by the same term.) It is in fact the cruciform gallery, that stands between the central entrance of the first story and the vestibule of the second story, and occupies a square ground 45 metres long on each side. Enclosed by its four branches are four ponds. Of all the monuments of Cambodia, a structure like this appears only in Angkor-Vat and Beng-méaléa. It consists of two galleries, flanked on both sides by verandas, juxtaposed at right angles. The ends of its N. to S. axis meet with two galleries, that connect the side entrances of the gallery of the first story with the side vestibules of the gallery of the second story. The northern of these two galleries is said to contain an echoing room, called Chambre des Echos, but no structural difference can be found in it, and the name probably arose from some unknown incident. Along the W. side of the court is a small veranda, which encircles the ponds. Only a part of its E. side has a veranda. These verandas are decorated with railed windows, and in the piers are set images of Tévadas. Each of the three galleries that run E. and W. in this court is led to by a wide stairway, and the ponds enclosed by them are paved with sandstone and their banks are bordered by stone, from which flight of steps descends to the bottom of each pond. Their side walls are decorated with carefully executed horizontal bands of moulding. The water of the ponds was used for the baptismal rites of the believers.

This court is one of the most perfectly executed works of Angkor-Vat, still there are many places in it where work is left unfinished. Especially, its peristyle is thinly carved only in the lower part.

Each arm (or branch) of the cruciform gallery is closed by a free door, before it reaches the gallery of the N. or the S. side or a stairway of the E. to W. axis. From this door, the height of its pillars, entablatures, and vault diminishes together with those of the veranda, so that the gallery consists of two parts of different heights. The high pillars of the court are crowned with capitals, decorated with a vigorous design in deep relief of flowers and leaves; their shafts are covered with thin bas-reliefs; and on their bases are

carved figures of praying brahmans. These pillars stand at intervals of 3½ metres and their height is 4 metres. In the frieze of the inside wall under the vault are carved exquisite figures of dancing girls. In that of the outside are carved figures of praying brahmans, similar to those of the bases of the pillars, but smaller. The architrave is also decorated with designs of lotus flowers. On the free door are seen various sculptures taken from the legend of Vishnou. At both sides of the entrance at the end of each gallery are pilasters, decorated with a figure of a small man amid a spiral design of leaves.

Library.—In the court of the second story, at its N. E. and S. W. corners stand two edifices. They are called libraries, but it can hardly be thought that the priests of Angkor kept their sacred books in these unprotected buildings. They should rather be called chapels. Each edifice stands on a high foundation ground with four stairways, one at each side. The building is rectangular in shape and contains only one room. Along each of its longer sides is a gallery having railed windows. Between the vault of the gallery and that of the veranda are small windows, which are beautiful to look at, but through which rain pours into the interior. This fact alone proves that these edifices were not intended as libraries. At each end of the E. to W. axis of the building is a projecting gate. The four pillars that supported its roof still remain, but the pediment and the lintel are gone. There was also a gate at each of the N. and the S. sides, but it is now utterly destroyed, leaving hardly any trace at all.

Having finished the inspection of the second story, visitors now proceed into the innermost court and face the third story. Here they will first be confronted by a lofty stone foundation having more

Staircase to the Central Tower, Angkor-Vat.

than forty flights of steps. Visitors will have already observed that the foundation of the second story is higher than that of the first. Now they will see that the foundation of the third story is much higher still and its flights of steps more numerous and very much more precipitous. Herein lies the fundamental conception of the Khmer architects, who sought by this progressive elevation of the monument to inspire the hearts of pilgrims, who could not fail to be impressed by the mere sight of its mass rising in ever increasing height.

(c) ***The Central Structure*** (massif central).—*The Foundation Ground and its Stairway.* The foundation ground of the third story (the central structure) is built of layers of square stones. The length of each of its sides is 75 metres and its height is 13 metres. It rises in three grades and has twelve stairways, two at each corner and one in the middle of each side. Its surface is decorated with mouldings.

Porches and Vestibules.—The great stairway of the W. side leads up to a porch supported by four square pillars. A similar structure appears at the middle of each of the other sides, but they are smaller and supported by only two pillars. Next to the porch is a cruciform vestibule (9 × 7 metres), and at each end of it, on a lower level, is a room, which communicates with the vestibule by a large doorway. All these rooms are lighted and decorated at the same time by railed windows. The vestibule is connected with the gallery of the E. to W. axis and the side rooms are connected with the encircling gallery. Each of the corner stairways leads up to a small vestibule (2 × 2 metres).

The Galleries.—The encircling or peripheral gallery of the third story forms a square enclosure, 60 metres long on each side. At each corner and each centre, it is cut across by a vestibule. Its outer side has railed windows, and the side that faces the inner court has a row of square pillars, tapering towards the top like pyramids (44 cm. at the bottom and 38 cm. at the top). On a lower level, along its entire length, it is flanked by a veranda having a similar row of square pillars, which are, however, more sparsely placed and not quite as tall as those of the gallery. It is a parallel construction, both as regards the shape of the side and the height of the gallery roof. Its vault and arch are built proportionately lower and smaller than those of the gallery, just as its pillars are. The gable of the gallery and the semi-vault of the veranda are constructed in the style which the architects of Angkor invariably used in all their monuments. The gable consists of a carved ogive or arch and a pediment, on which is sculptured a many-headed sacred snake (Nâga), raising its heads above some beautiful seat or pedestal and twining its body in sinuous curves, the curves extending to the ogive and forming its arched frame. The heads of Nâga are designed as issuing forth from the mouth of a makara, an imaginary fish. The vault has a corbelled structure and is shaped like a great semi-circular tile.

From the middle of each wing of the encircling gallery start the

galleries of the axis, which lead to the sanctuary. These galleries are flanked on both sides by verandas, at the middle of each side of which is a stairway that descends to the inner court. The entrance to this stairway forms a projection consisting of a small roof supported by two pillars. One notices here several blunders committed by the repair work of later priests and inhabitants of Angkor. For instance, missing square pillars are replaced by cylindrical pillars taken from the platform at the W. entarnce of the first story, and also missing lintels are replaced with pillars. One notices further that the horizontal supports that connect the pillars of the gallery are not so broken as they are elsewhere. It seems that the architects of this monument paid special attention to strengthening the foundation structure that was to support the great central dome.

The Decoration of the Gallery.—Both the encircling gallery and the cruciform gallery are decorated uniformly. The semi-vault of the veranda is built of stone on which is carved a lotus design. The pillars and their supports are also carved with designs of flowers. The entablatures are decorated with friezes, on which are carved figures of dancing girls. The door and the window frames are also decorated with mouldings in deep relief. Against the wall of the vestibule hangs a decorative curtain. Its design consists of a gothic pattern of flowers on the border and the figure of a dancing girl in the middle. The frieze of this wall was meant to have the same decoration as is found at the W. entrance of the outer wall, but it has been left unfinished. All the wall above the windows of the gallery has thin bas-reliefs of flower-patterns. The walls between the windows and each corner wall of the veranda are decorated with figures of Tévadas. The wall that faces the court of the second story is covered with tapestries having designs of numerous small figures of men enclosed within borders of flower-patterns. All the windows are railed with a close row of columns, which appear like pillars of balls piled up one upon another. The structure is unique and appears everywhere in the monuments of Angkor.

The Sanctuary.—The sanctuary stands on the intersection of the two axis-galleries and is crowned with the great central tower. It consists of a central cellar and four small rooms, one at each side of the cellar. The side that faces the inner court has doubly railed windows, and the side that faces the gallery has two entrances placed close together, to which stairways of a few flights lead. These stairways are worn out, showing that they had once been stepped on by countless numbers of believers and pilgrims. The entrance of the cellar was once decorated with polygonal pillars, but now only their fragmentary traces remain. All the lintels of the four entrances, however, still hang in their places. In the spherical space within the dome there was probably once placed an image of Çiva, which is now missing.

The Inner Court.—This court is divided into four compartments by the four branches of the cruciform gallery. It is a little sunken from the floor of the gallery and is provided with drainage ditches.

The Towers.—At every corner of the encircling gallery stands a small tower, but they are overshadowed by the great central tower that rises to a height of 65 metres. All are similarly constructed, and that of the centre is built on a foundation stone 2 metres high, supported by the cylindrical pillars of the cellar and those of the veranda that runs along the side rooms. At the point of departure of each branch of the cruciform gallery are two high roofs superposed upon each other and joined to the tower. The cross section of the tower presents a conical shape spread out at its base, and rising in a series of grades, the interval between which diminishes considerably towards the apex. The edge of each grade is decorated with pointed tiles. Most of these decorations are left unfinished, and those that are completed have carvings of various sorts of men surrounded or entwined by Garoudas or Nâga. The corner towers are ten metres lower than the central one and much smaller at their bases. At the apex of each tower is a fairly deep hole, which was probably used for the insertion of a flag pole. Under each corner tower, in the triangular pediment of the entrance, is seen a beautiful work of sculpture, but it is less elaborate than that of the second story, and very much more so than that of the first story. As visitors enter this monument, they will at first be dazzled by the elaborate decorative work of the first story, but, as they ascend from the first to the second and then from the second to the third, their interest will be less diverted by details of decoration. Instead, they will be more impressed by the lofty appearance of the structure as a whole. It seems that this effect was exactly what the architects of the Khmer Dynasty tried to produce when planning this religious monument.

Angkor-Thom.

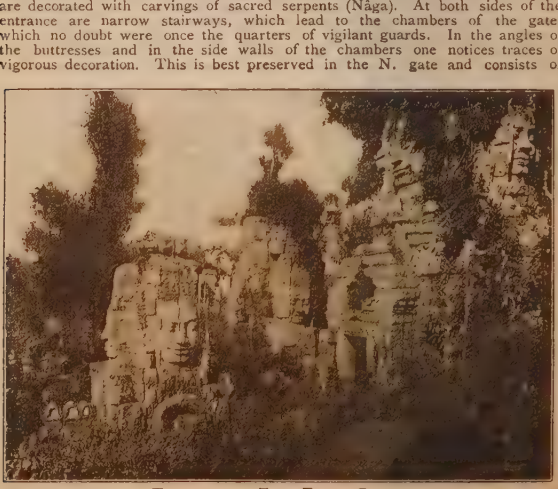
General Description. Angkor-Thom is situated 6 km. from Siem-reap and 1½ km. from Angkor-Vat, whence a road leads directly to the southern gate of the city. It was once a scene of the luxury and splendour of military life, but now it all lies desolate. The ruins of its walls and gates, which no doubt must have been of great dimensions, are now all overgrown with grass and bushes, and no sound of life breaks the empty stillness, except perhaps the disconsolate voice of a praying monk, who may have chosen this spot for its very desolateness. The gate, too, through which one enters the city, must once have often witnessed shining processions of knights and ladies, but now is half broken down and passed through only by shepherds and woodcutters of the neighbouring villages. Around the city, as its outermost defence, is a moat, 100 metres wide, and within this, as a second protection, stand tall walls of conglomerate, with five gates, one on each of its W., S., and N. sides and two on its E. side. To each of these gates a highway leads across the moat. In the centre of the enclosure stands the temple of Bayon, a masterpiece of the architecture of ancient Cambodia. To the N. of it extends a long court, 700 metres long

and 150 metres wide, and around this court are the temples of Baphuon, Phimeanakas, Terrasse d'Honneur, Terrasse dite du Roi Lépreux (Terrace called the leper king's), and Prah-Pithu. These monumental buildings are unquestionably Brahmanic structures, but now so dilapidated that one can hardly distinguish their characteristics.

The Moat and its Cross Ways. The total length of the castle moat is 13 km. Its banks are built of enormous blocks of stone, which are, however, mostly overgrown with bushes and hidden from view. Its depth once measured as much as five or six metres; but, as it has been neglected for many centuries, with lapse of time and the action of the elements it has gradually been getting filled in, and now in its deepest spot it hardly measures three metres.

The greater portion of the moat has been converted into rice-fields and cultivated by the natives, and the rest is overgrown with tall, impenetrable weeds. Along the inner bank of the moat runs an elevated-road (berm) several metres wide. Of the five highways that cross the moat and lead into the interior of the enclosure, four, entering one through the middle of each side, converge near the temple of Bayon. The fifth one, on the E. side, reaches to the front of the great stairway of the temple of Phimeanakas. They are of the same construction and each has a width of 15 metres.

The Gates and the Outer Wall. Nothing could be more elegant nor more majestic than the monumental gates of the outer wall of Angkor-Thom. Their artistic beauty reminds one of the beautiful Greek structures of Thebes and Memphis. But their very beauty was also the cause of their frailty. Their walls are now mere heaps of stones and crumbled dirt, overgrown by creeping vines and other weeds. The five gates are all identical in structure. They stand twenty metres high from the ground, and their height from the foundation to the lintels is not less than seven metres. On both sides of the wall project buttresses, supporting triangular roofs, the pediments of which are decorated with carvings of sacred serpents (Nâga). At both sides of the entrance are narrow stairways, which lead to the chambers of the gate, which no doubt were once the quarters of vigilant guards. In the angles of the buttresses and in the side walls of the chambers one notices traces of vigorous decoration. This is best preserved in the N. gate and consists of



Towers with Four Faces, Bayon.

a large three-headed elephant, which seems to be supporting on its strong back a cylindrical tower, constituting the superstructure. On its heads ride Cornacs, all traces of which are, however, almost effaced. The elephant is decorated with a necklace, at the end of which hangs a bell. It seems to be picking lotus flowers, with its trunk stretched out to the ground. On examining the creature closer, one will find that around its feet are traces of all sorts of water-flowers, and this fact shows that the elephant is designed to stand in a marsh.

The outer wall starts from the back wall of the chamber of guards and is built of conglomerate. It is 7 metres high and 12 km. long. Along the wall on the inside runs a road 10 metres wide, which, however, is now mostly forest with only a narrow path winding among trees.

The Five Highways. These lead from the outer wall to the centre of the enclosure and are each 1,500 metres long and 30 metres wide. They are all identical in structure. On both sides of each road is piled up, in the form of a bank, the earth dug from the ditches that skirt them and which serve as drainage ditch. Both the roads and the ditch were thickly overgrown by tall trees and wild vegetation, until lately these have been cut down and cleared away, exposing to some extent the old outlines of the magnificent avenues.

The Ponds. There are many ponds (*sras*), large and small and of various shapes, in Angkor-Thom. Some of them are within the enclosures of temples and regarded as sacred waters. These are small, but others are large and were once used as reservoirs. They are all built with conglomerate and sandstone, and at present some of them are very deep, while some appear just like natural marshes. To mention the most important ones, there is a large one, about 300 metres long, in front of the group of temples of Prah-Pithu. Though now converted by the natives into a rice-field, this must once have been a great pond. At the back of the same group (north) are several small ones. There are several equally small ones around the terrace on the W. of Bayon Temple. They are all so disfigured that casual inspection can hardly identify them. As a rule, however, each temple had one or more ponds attached to it. The largest of all is the one located to the N. of Phimeanakas.

Temple of Bayon. This is one of the oldest temples, if not the very oldest, built by the inhabitants of Angkor on the soil of Cambodia. Though no record of it has been handed down to us, judging from the style of its architectural and decorative art, we shall not be very far wrong, if we ascribe the commencement of this building to the time of King Indravarman (877) and the completion of it to the time of King Yaçovarman (889).

The First Story.—An encircling gallery of 150 metres E. to W. and 100 metres N. to S., set on stone foundations 2 metres high, constitutes the first story of this building. Despite its miserable state of dilapidation, it shows a close resemblance to the first story of Angkor-Vat; e.g. it consists of interior walls covered with basreliefs, a row of tall square pillars which support the roof, and a row of much smaller pillars upon which rest the semi-circular vaults of the veranda. The only difference is that here a small terrace, 3 metres high, with an elegant balustrade, a vestige only of which now remains on the W. side, surrounds the entire length of the gallery. On each side of it are three entrances, one in the middle and two at the W. end.

In front of the E. middle entrance extends a large terrace, 5 metres wide and 25 metres long, with four flights of steps, two on each side, which go down to the pond. They are, however, now in a state of utter ruin. A fifth flight, placed in front, descends to the avenue which leads directly to the gate of Khmoch.

Between the gallery of the first story and that of the second extends a court, 18 metres wide, which offers no particular objects of interest, except heaps of ruins scattered in various places and blocking its paths. At each of its S. E. and N. E. corners stands a small building resembling closely the library of Angkor-Vat. Across the middle of the court, between the two galleries, runs a corridor which connects the entrance of the first story with that of the second.

The Second Story.—The gallery of the second story presents an altogether different appearance: (1) Here are five entrances on each side, three in the middle and one at each end, (2) its floor is not all in the same horizontal plane, but elevated towards the middle entrances, (3) the left entrance on the S. side and the right entrance on the N. side are placed very much nearer the N. to S. axis of the gallery than the other entrances, (4) and finally this gallery has two verandas, one facing the surrounding court and the other the interior of the building.

The entire back wall of the outer veranda is decorated with bas-reliefs and is cut into panels at frequent intervals by narrow entrances that establish communication with the interior of the gallery, by means of stairways of five or six flights, according to the different elevations of the floor. The entrances that are placed at the side of each middle entrance of the gallery open to other galleries, which run at right angles to that of the second story. Each of these galleries is invariably accompanied by a double veranda and forms a redan, the lowest points of their roofs being on the same level as the terrace of the third story. The gallery runs round and encloses a small court.

The Third Story.—This consists of a terrace and a tower standing in the centre. The tower, however, is sadly dilapidated. It is circular at its base and rises in a conical shape, ornamented by an inaccessible balcony. Its summit stands 45 metres above the level of Angkor-Thom. Under the dome is a large, dark room, connected with the terrace by eight corridors; this is the sanctuary of the Temple of Bayon. Those who desire to explore it should provide themselves with lights, so that they may avoid falling into the holes, which seekers of jewels and statuettes have dug in its floor.

Its W., S., and N. corridors open on to the terrace by elaborate gates. The E. corridor is an important passage flanked by galleries and surmounted by small towers. The other intermediate corridors are connected to the terrace by means of stairways of a few flights. At the base of the great tower are many small cells for priests, which still contain the remains of some ancient statues. At the side of the S. gate is a chapel, and a small edifice on each side of the great avenue on its E. side. It seems, also, that around the terrace there was once a balustrade, all traces of which are now almost completely effaced, except for pieces of its ruins scattered in the court. All the towers of Bayon, without exception, are decorated with the four faces of Brahma crowned with a diadem.

The Decoration of Bayon.—The beauty of Bayon and its perfectly original charm are absolutely unrivalled in the whole of Angkor. Though much inferior in magnitude, in the purity and perfection of its art, Bayon surpasses Angkor-Vat. The architectural and decorative genius of Angkor could be studied here in all its splendid originality, but for the havoc that the neglect of long centuries has wrought so utterly. Even so, we can still draw valuable inspiration from these numerous ruins, which are crowded into this comparatively small peace. It seems that the artists, who lavished their talents in the creation of this magnificent work of art, did so, not from the motive of pleasing spectators, but from the pure desire to beautify God's abode. For, as one examines it more carefully, one will observe that the building is most minutely decorated, even in such corners and angles as no casual observers will remark; for instance, between its lintels, which occur at intervals of 50 cm., one will notice that the expression on each of the many Brahma face, constitutes in itself a perfect work of art. Besides these may be mentioned the original decoration of the foliage on the frame of the door, the delicate embroidery of the window curtain, and the inspired carving of the images of Tévadas. All these are remarkable, if one examines each of them separately and carefully.

The State of Ruin of Bayon.—No monuments of Cambodia, save Baphuon, have suffered so deplorably from the lapse of time as that of Bayon. The roof of the first story and its semi-circular dome have crumbled down to the ground, leaving a mere fragment of their ancient majestic structure. Its interior walls, its double row of pillars, the pediments of its middle and corner vestibules are all more heaps of ruins than structures. The second story appears a little more solid, but it is also in a state of great dilapidation. Some roofs are entirely missing, and that of the left end of the N. side is barely kept hanging on wooden posts which have been put there in place of the crumbled columns. The third story is in a better state of preservation than the other two, but its great dome is so sadly disfigured that casual visitors will not easily be able to reconstruct the original temple of Bayon out of all these ruins.

Baphuon. Baphuon is situated 300 metres N.W. of Bayon. The road to it is only a narrow path made by the feet of the priests and the few inhabitants living in its vicinity. Of all the temples in Angkor-Thom, the temple of Baphuon is in the most dilapidated condition. Two reasons account for this: In the first place, the lintel of every vestibule of the gallery was supported by wooden pillars encased in stone. It is easy to understand that under the prolonged effect of humidity they decayed and crumbled away. In the second place, the materials of the building were not scientifically arranged. At the same time, it is true that this very ruin, together with the luxuriant trees growing about it, has added a peculiar charm to the general effect of the scenery.

Entrances.—Three gopura or city gates, connected with each

other by a gallery, form the front entrance of this temple, and open into a great forum, around which stand its principal edifices.

The galleries between the central gate and each of the side gates appear to have had balustrades in the front, of which, however, hardly any traces at all are left. It also appears that, like the W. entrance of Angkor-Vat, this central gopura of Baphuon once had the paths leading to the two chambers connected with the galleries, but they cannot now be recognized. Each of the side gopura has a guard's quarters at the end, and a path leading to them.

Foot-Bridge.—From the central gate to the front of the temple runs a bridge about 200 metres long. On each side of it is an oblong pond. At about two-thirds of the way across, the main bridge meets with two lateral bridges, the three forming a cross. All these bridges are built on short round pillars placed in close rows. Like the bridges and terraces of Angkor-Vat, they must have had balustrades with the design of Nāga, running along their edges, but they are so utterly decayed that we can see only what appears to be their crumbled fragments. In the centre of the cross remains a formless mass of ruins, which was perhaps once a chapel.

General Description.—The temple of Baphuon is built on a square foundation and presents the form of a three-storied pyramid. The length of each side of its foundation is 120 metres, and its present height is 43 metres. When the tower surmounting the top of the building was in position, its height must have been considerable. It is built on firm, solid foundations and consists of three tiers of galleries, each surrounding the same inner court, and each starting from small towers led to by stairways from the foundation ground. There is one such tower and one such stairway on each side of the building. The stairways are, however, now in a state of utter dilapidation.

Around the foundation ground of the first gallery, at a distance of about 15 metres, are some remains of conglomerate walls, which once formed the outer bulwark of the temple. The material was later taken away and used in the construction of the citadel of Siem-reap.

The First Story.—The height of its foundation is 3 metres. The inside is of conglomerate and the outside is faced with sandstone, and has no decoration except mouldings in horizontal bands. Its gallery remains now only in the middle parts of its E. and S. sides, where, despite its general state of ruin, there still stand vestibules surmounted by small towers. These vestibules are decorated with many skilful designs. Its W. and N. entrances are completely decayed, leaving only some fragments of stone. Most of the stone materials were later carried away and used in repairing broken places of the bridge. Between the gallery of the first story and the foundation ground of the second story is an inner court, measuring 8 metres on each side, except its E. side, which is 12 metres. On its E. side are two small edifices, which were probably like the libraries of Angkor-Vat, but are now mere masses of ruin.

The Second Story.—Its foundation ground is divided into two parts by an abrupt descent of its upper layer upon that of the lower one, and between the two is a sort of platform, which, but for masses of débris blocking the path, would permit of a walk. The height of the foundation is 7 metres. In front of the W. side of the foundation and the gallery, there are piled up in a queer form stones that were brought from the gallery of the first story, and perhaps also from that of the third story, in order to repair the bridge. There is design in this heap of stones. If one looks at it attentively, one will perceive in it a gigantic figure of a reclining Buddha. The gallery of the second story is in a very much better state of preservation than those of the first and the third stories. Though no parts remain undamaged, still its E., W., and N. sides present, on the whole, their original structures. Their gates and vestibules are perfect, and the bas-reliefs of the outer walls are still distinct. There is a small inner court between the gallery of the second story and the foundation ground of the third one, but it is now a mere mass of débris and hardly admits of a walk.

The Third Story.—Its foundation is built in the same fashion as that of the second story. At each side of it are three stairways, but its W. and S. sides have crumbled and, together with the dirt carried by wind and long accumulated, form a slope. Its height is about 10 metres, and the gallery built on it is now all fallen down in the inner court in a formless mass, except two small towers which still stand at each corner. According to the record of the temple, there once stood a central tower, 30 metres high and of a rare beauty, but now not a trace of it is left.

Phimeanakas. This temple stands within a rectangular enclosure, 600 metres from E. to W. and 250 metres from N. to S., situated at a very short distance to the N. of Baphuon. Though

Elephants on the Walls of the Terrace, Angkor-Thom.

the order of description should naturally begin from its front entrance, for the convenience of visitors who enter it from the side most accessible from Baphuon, our description of it will follow that order of visiting.

The Double Wall and the Secondary Gates.—Those who have just finished visiting Baphuon will find at some 10 metres N. E. of it a broken place of the first (outer) wall of Phimeanakas, through which they can enter into a small court, about 30 metres wide, surrounding the second (inner) wall. The first wall is made of conglomerate and seems to have had no decoration at all. Besides, it is greatly dilapidated. The second wall is fairly well preserved and has moulding on its upper part. Entering through one of the small gates of the S. side, one comes, at a distance of about 10 metres in a N. W. direction, to a cruciform platform paved with sandstone, 30 by 20 metres in size, with a stairway at each end. On the platform are set a number of statuettes collected by natives.

The Temple.—The monument of Phimeanakas stands near the centre of the enclosure, on a foundation ground measuring 35 metres from E. to W. and 25 metres from N. to S. It has only two stories. The first story consists of a high foundation ground and a narrow encircling gallery. The foundation ground is built of conglomerate, in three tiers, the top of each tier forming a narrow platform, just wide enough to walk along. At each side is a stairway, which is so narrow and precipitious and so broken that one has to climb it with the aid of both hands. This only gallery of Phimeanakas is not ceiled, being so low that, if it were, even a man of small stature could not stand upright in it without knocking his head against the ceiling. The inner surface of its vault is polished with great care. The first story has four vestibules, one at the middle of each side. They are constructed in the same style as we have seen elsewhere, but are very much smaller. Their entrances are flanked by two pilasters which support a triangular pediment. Both sides of the gallery have many windows placed very close together, some of them open entirely, and others filled with rows of columns, which are, however, mostly broken. The piers between the windows are decorated with foliage. At each corner of the building is a small room, the E. and W. sides of which are closed by decorative doors, while the N. and S. sides contain windows, through which the room is lighted. Between the gallery of the first story and the foundation ground of the second is a small inner court, the middle part of each side of which is occupied by a stairway which leads to the interior of the sanctuary. The foundation ground of the second story is built of conglomerate in the lower one-third, and of sandstone in the upper two-thirds of it, and, like that of the first story, is decorated by horizontal bands of moulding. The four stairways already referred to lead to its interior directly from the back entrance of the first gallery. Its sanctuary is a cruciform room, four metres square, with a vestibule at the top of each stairway. The lower part of the walls of the cruciform room of the

sanctuary are built of such conglomerate as the architects of Angkor have used elsewhere only as second-grade material. Considering all these points, Phimeanakas, especially its upper part, seems to have been built in a hurry.

Gopura Oriental.—(E. Monumental Gate). The middle entrance in the E. side of the outer wall is the most important one, and along the path that leads through it in an E. to W. direction are three rooms, the middle one of which has a tall tower built in three divisions. This middle room is connected with the other two by a doorway having decorated polygonal pillars and beautiful lintels. The E. and W. vestibules that lead to this room have three doors, one in the middle and the other two at the sides. On the side of them that faces the wall are some beautiful inscriptions, parts of which are unfortunately missing. To the middle room, along its N. to S. axis, are attached two side chambers, each containing two rooms of different dimensions and having separate entrances. The decoration of the outer side of this gate, in spite of its sad state of dilapidation, still show some traces of having been a masterpiece of the decorative art of Cambodia. In front of the main entrance is a platform now partly destroyed. This platform leads to a small edifice (now a mere mass of ruin) situated at its intersection with the other platform, called Terrasse d'Honneur, and at both sides of the platform are sunken courts partitioned by a wall standing between the Terrasse d'Honneur and the outer wall of Phimeanakas, and this wall has a small door with two side posts of sandstone and a beautiful lintel.

Prah-Palilay. This temple is situated about 50 metres N. of the outer wall of Phimeanakas. Its construction seems to have been similar to that of Baphuon, but it is now in a state of utter ruin. One can only imagine what it may have looked like from the fragments scattered on the ground.

Belvédère du Roi Lépreux (the turret of the leper king). This unique edifice, found in no other cities of ancient Cambodia, is situated a few metres from the N. end of the great Terrace of Honour of Phimeanakas. Its original shape seems to have been a cross, 35 metres long and 25 metres wide, but it is now so dilapidated that its exact area is unknown.

Tep-Pranam. This Buddhistic chapel is situated 60 metres to the N. of Prah-Palilay and Belvédère.

Groupe du Pra-Pithu. This is situated in an easterly direction from the Place Publique.

Prah-Khan.

The ruins of Prah-Khan are situated to the N. of the N. E. corner of the outer wall of Angkor-Thom. They stand in the centre of a rectangular enclosure, 820 metres from E. to W. and 740 metres from N. to S. This vast enclosure is surrounded by a moat, the S. side of which is only 250 metres distant from the moat of Angkor-Thom. Between the two is a path, which, starting from the N. gate of Angkor-Thom, runs in a N. E. direction, passing a point as near as 30 metres distant from the N. entrance of Prah-Khan.

The Monuments. In order to visit the various monuments of Prah-Khan from the front, one should turn to the left of the N. entrance of the inner wall and go along the outer edge of the wall, until one comes to a broken place at its N. E. corner. Entering through it, one will see a dingy structure of a rare antique character. It occupies an area of 18 metres from E. to W. and 7 metres from N. to S. and consists of six rows of four sandstone columns, with two entrances, one at each side of its front middle axis, and each consisting of four pillars built upon a foundation ground one metre high. Its upper structure is all crumbled down, leaving only the heads of the columns, and it is impossible to tell what religion or god this quaint edifice was once consecrated for. At a distance of about two metres from this building, one crosses the paved road leading through the E. gopura and extending in a westerly direction, and just where one crosses it, one will see another edifice of a rare character. It forms a rectangular outline, 45 metres from E. to W. and 16 metres from N. to S., and is surrounded by a wall with a gate in the middle of each side. Its eastern entrance faces the middle gopura of the inner wall. In its interior stands a cruciform sanctuary, flanked on both sides by galleries, and with a doorway 3 metres high at each end of the cross. The next building occupies the middle part of the E. side of the first of the three concentric galleries. It is preceded by two great vestibules connected by a gallery and surmounted by a tower, of which nothing but the base remains. Its interior forms the shape of a cross. Its N. and S. ends are ruined, and its E. and W. ends are open, one to a vestibule and the other to the gallery of the central axis. The posts and the lintels of their doorways are beauti-

THE DECORATION OF THE OUTER WALL, PRAH-KHAN

fully decorated. On the right step, at the side of the door frame, stand two life-sized figures of women. Entering then into the interior of the cross, one sees that at each of its sides is a gallery, and that its E. side is entirely closed, while its W. side is provided with several windows and faces the inner court.

In order to visit the other monuments of Prah-Khan and to pass from the first gallery to the following one, it is necessary, all the paths being blocked by ruins, to ascend the débris heaped up at the N. end of the building just visited, and then to enter the inner court of the second gallery. The vestibule of the second and third galleries consists of a passage and two small side rooms. The passage is roofed with an elegant tower. In the second gallery, a combination of conglomerate and sandstone presents a very good effect, especially where the frames of the windows are of sandstone and the piers between them are of conglomerate. The third gallery, built entirely of sandstone, stands on a foundation decorated with mouldings. The central part of the temple consists of a sanctuary crowned with a high tower, four small courts, and the galleries of the axes. Each of the small galleries of the axes, which lead to the interior of the sanctuary, supports a tower.

Néak-Pean; Bantéai-Kedei; Ta-Prohm.

(Only those who have time to spare can afford to visit them.)

Néak-Pean. This monument is situated 2 km. from the E. wall of Prah-Khan, in the middle of a rectangular depression surrounded by a bank, which was once an artificial lake. It consists of an encircling terrace, several ponds, and a small sanctuary built of sandstone. The encircling terrace measures 400 metres from E to W., 350 metres from N. to S. and 20 metres thick, and surrounds a wall which encloses several ponds within it. In the centre of the enclosure is a large pond, in which is a foundation ground having a diameter of 14 metres, and upon it stands the sanctuary. It is a small edifice two metres square and has only one room, crowned with a small tower. But its size is by no means the measure of its value. In point of beauty it is one of the rare sights of Angkor. A beautifully decorated building covered by the raised roots of a big tree presents an admirable sight. Furthermore, this monument has not yet suffered so sad a fate of ruin as has fallen on other temples, and except for one side only, the outline of the building is clearly seen even from a distance. The only danger is that some day an evil storm may uproot the tree, which, falling on the building, will crush it to pieces.

Bantéai-Kedei. This monument is situated 4 km. N. E. of Angkor-Vat. The road that leads to it is only a narrow path through forests. Its foundation ground measures 700 metres from E. to W. and 500 metres from N. to S., and it is enclosed by a wall of conglomerate. In the middle of each side is an entrance consisting of a cruciform middle room and two small side rooms.

Those who come from Angkor-Vat should avoid its natural entrance, the W. gate, which is blocked with heaps of ruins, and walk along the wall to its N. W. corner, where they will find an opening through which the inhabitants of the vicinity usually enter.

Note.—Those who have no extra time to spare had better omit visiting this place and see the more interesting monument of Ta-Prohm.

At a distance of about 200 metres from the outer wall is its inner wall, each side of which is 300 metres long. This wall is built of conglomerate and is now in a sad state of ruin. Around it is a stretch of hollow ground, which was probably a moat. Midway in front of it is a cruciform elevated ground with stairways of a few flights at its W., S., and N. ends. At its E. end stand great pillars, which form the entrance-edifice to the great cruciform vestibule of the E. side of the wall. Its roof is a corbelled structure. Its interior is sadly ruined, and the architraves, which are partly dislocated from the heads of the pillars, are supported by stone structures, which appear to belong to a very much later age. Inside the second (or inner) wall is an elevated road five metres wide. This road surrounds the central monument, and between the two circumscribing roads thus established is a ditch 20 metres wide, which, at each of its E. and W. sides, is out across by a paved path once provided with balustrades along both edges. This path connects the gopura of the second wall with the temple. The temple consists of two concentric galleries and a cruciform gallery. At the intersection stands its sanctuary. The first of the concentric galleries does not differ in its construction from those of other monuments. The second gallery has no veranda, and its E. and W. sides are each provided with five doors, one in the middle, one at each end, and one on each side between them. The wall between the doors has decorative windows composed of rows of little columns and other decorative designs. The N. and S. sides of the gallery are not open, except at their extreme ends, where they are connected with the passages of the axes. The second gallery has eight conical towers (one on the top of each vestibule). In the square enclosed by this gallery is the cruciform gallery, which forms the N. to S. and the E. to W. axes of the court, dividing that court into four smaller ones. At the intersection of the galleries of the axes stands the sanctuary crowned with a tall tower, which commands the entire view of this monument. Beneath the tower is the sanctuary room, four metres square. The sanctuary has four doorways leading to very small vestibules, but the N. and the S. ones are now closed and plastered over. Proceeding, then, from here in an easterly direction, one sees, at the outside of the second wall, a great chapel 30 metres long and 20 metres wide, flanked on its E. and on its W. side with a vestibule composed of four columns and connected with it by a doorway with decorated pillars and a pediment.

Ta-Prohm. This monument is situated near Bantéai-Kedei, so near that the outer walls of the two monuments almost touch

each at their respective N. W. and S. E. corners. Visitors can, therefore, leave Bantéai-Kedei at its N. W. corner and enter Ta-Prohm by the entrance in the middle of its E. side.

The outer (or first) wall of Ta-Prohm extends 1 km. from E. to W. and 650 metres from N. to S. and is built of conglomerate. It has four similar entrances, each consisting of a cruciform middle passage and two side rooms. At its N. E. corner is a pond, 200 metres long and 50–60 metres wide. From the E. entrance of the first wall to the entrance edifice of the second wall is an avenue thickly shaded by trees. It is, however, now almost impassable and visitors are advised to follow a narrow track through the surrounding woods. The inner (or second) wall forms a kind of cross. It does not occupy the middle of the enclosure, but is placed towards the W. side, leaving rather a wide vacant space at its right. Its length, measured from one end to the other of each of its two cross axes, is 250 metres each way. This wall is surrounded by an elevated road 10 metres wide and then by a deep ditch, which is crossed over by paved ways in the direction of the E. to W. axis. All the important edifices of this monument occupy an E. and W. direction. The first one is the monumental entrance that stands at the middle of the E. side of the second wall. Next to it is a chapel and then follow in order a terrace that connects the chapel with the main building, two concentric galleries, a temple containing a sanctuary, and the monumental gate of the W. side.

Entering from the E. side, the first most important edifice is its monumental gate. Only a part of what was once truly monumental remains now. It stands on a foundation ground 1½ metres high and consists of a wide cruciform gallery, two sides of which have a vestibule and doorway projecting seven or eight metres outwards from the wall of the gallery, and led to by a stairway of several flights. With two side rooms added to it, this entrance extends for a width of 40 metres and occupies almost the entire length of the E. projection of the second wall.

Immediately behind the E. entrance of the second wall is a chapel, similar in construction to those of Prah-Khan we have already seen. It forms a rectangle, 35 metres long and 20 metres wide, and its N. and S. sides are closed. At the middle and both ends of its front are decorative doorways of rare beauty, and each of its E. and W. sides has an entrance, which, however, is blocked by heaps of débris, only the W. entrance being with difficulty accessible. In its interior is a large cruciform room surrounded by a gallery. Stones of the ruined vault are scattered thickly among the pillars, rendering the spaces between them impassable. Between the W. entrance of the chapel and the first gallery is a narrow terrace, about one metre high, which connects the two buildings.

The first gallery of the temple is 120 metres long on each side. At the middle of each of its E. and W. sides is a central entrance with a small additional entrance on each side. At each of its ends

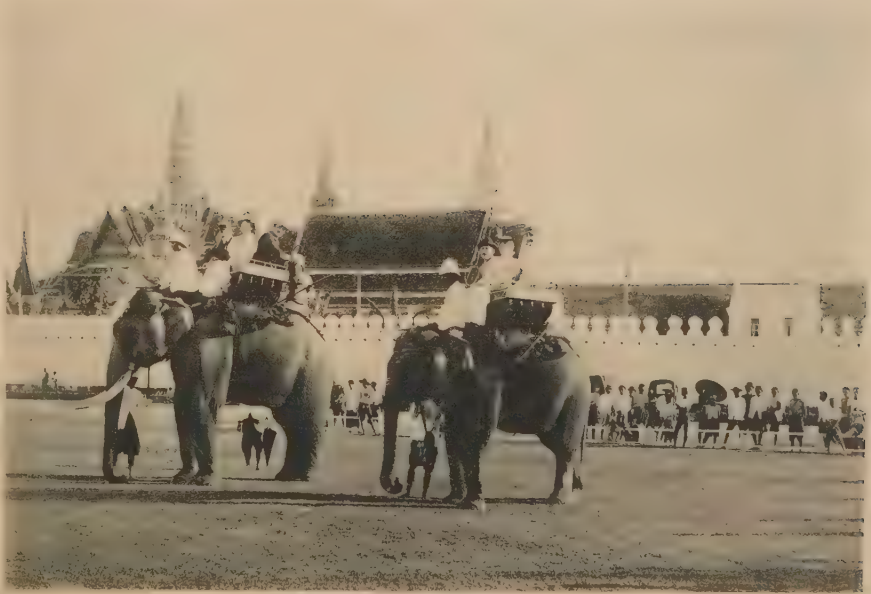
is a doorway. Its N. and S. sides have only central and end entrances. The vestibule of the central entrance is composed of a cruciform passage and two small side rooms. The end entrance consists only of a cruciform room or passage. The gallery is surrounded on the outside by a veranda; its interior is closed entirely by walls. Between the first and second galleries is a large court, and in it stand a number of small edifices with small towers and also a special building that looks like a chapel. At the middle of its E. side stands a central vestibule, enclosing within it a corridor having a cruciform room 15 metres long and crowned with a tall tower at each end. The second gallery is nearly square, each side being 45 metres long. It opens to the court by the middle entrance of its E. side, which faces the great vestibule. It has a veranda running along its inner side. The pillars of the gallery and of the veranda are massive, having a cross-section of 70×70 cm., but they are so short that even a person of small stature can hardly stand upright in these places without his head touching against the architraves. Near the N. entrance of the gallery stands a great tree, not less than 40 metres high, and its up-raised roots spread out around pillars and walls, over the roof, and everywhere through the building. The central edifice stands in an inner court several metres wide, which separates it from the first and second galleries. It consists of three parallel galleries that run in an E. to W. direction and are connected by two lateral galleries, running in a N. to S. direction, with a tower at each end and corner, and a sanctuary above which projects a high tower. This edifice is simple in its structure, but, owing to several small buildings that stand within the enclosure and obstruct the view of its whole arrangement, visitors may find it hard to grasp the essential points of its construction. The decorations of the exterior of its middle gallery are beautiful, but, judging from the style of their art, this monument seems to belong to a period later than that of Prah-Khan.

The sanctuary is a small cruciform room, similar in its construction to many other temples of ancient Cambodia. But there remains not a trace of the statue of the god to which it might once have been consecrated, and there are no means of knowing to what Brahmanic deity this temple was dedicated. The galleries of this central edifice are dark, being scarcely penetrated by daylight, so that visitors should be provided with some artificial light.

Other Monuments in the Vicinity of Angkor.

Prasat Kravanh (14½ km. E. N. E. of Angkor-Vat). ***Prasat Bat-Chum*** (1 km. N. E. of Prasat Kravanh). ***Prê-Rup*** (1 km. N. E. of Prasat Bat-Chum and 7½ km. from Angkor-Vat). ***Ta-Kéo*** (1,300 metres N. W. of Ta-Prohm and 900 metres from the W. wall of Angkor-Thom). ***Ta-Nei*** (900 metres N. of Ta-Kéo).

For those who have time to spare, it would be well to visit these more or less ruined monuments.



STARTING ON A SIGHT-SEEING TOUR.

PART III. SIAM.

INTRODUCTION.

Chapter I. Preliminary Information.

I. Routes to Siam. To reach Bangkok the most usual way is to take a steamer from Singapore, after arriving there by one of the several S.S. lines either from Europe or the Far East. Between Singapore and Bangkok the Straits S.S. Co. maintains a weekly service, by means of the passenger boats, the departure from Singapore generally taking place on Saturdays. There is also a coastal service between the ports of French Indo-China and Bangkok.

II. Passports and Customs. Passengers' passports and luggage are examined by customs officials on board the steamer before they are allowed to land. Opium and cocaine are prohibited articles, being admitted to the country only as medicines. Travellers carrying fire-arms and ammunition should obtain the customs officials' provisional permit, with the understanding that they will apply for a regular one within 15 days from the date of their arrival.

III. Language and Guides. The language universally spoken is the Siamese. As a rule, the educated Siamese speak English. Guides who speak English may be hired at the hotel or through the consulate (or legation) of one's own nationality.

The Siamese written language is based on 32 vowels and 46 consonants. The characters employed in writing are very similar to those of the Cambodian and Pegu languages, being all based on the Sanscrit alphabet. But in the case of the Siamese, certain distinct pronunciations, traceable to the influence of the Chinese language, are noticeable, for example in numbers and in the names of certain animals and plants, while in the case of abstract nouns there are found among them a large number of Pali or Sanscrit words. The latter fact is easily explained by the early prevalence of Hinduism and later of Buddhism in this country. Besides these, there is also a large admixture of words from the Laos, Cambodian, and Malay languages.

With the exception of the words borrowed from the Pali and Sanscrit languages, Siamese words are mostly monosyllabic, and each is spoken generally with the five different accents or intonations of tonuscrectus, circumflexus, demissus, gravis, and altus. The same word pronounced in these five ways stands for five different meanings: for instance, a word written *song*, when pronounced in the five different tones, means *envelope*, *to shine*, *to hide*, *noisy*, and *two*, respectively. The different accents or intonations are indicated by signs, but it may easily be imagined how perplexed a beginner is, when he is confronted for the first time with this feature of the Siamese language. Again, in speaking Siamese the use of honorifics is usually

one of much perplexity. Different honorifics are used when addressing a nobleman, a priest, or a person who ts of the same rank as the speaker.

IV. Currency, Weights and Measures, and Banks. ***Currency.*** The unit of coinage is the silver *tical*. By the Gold Standard Act of 1908, its value has been fixed at 1 s. 6½ d., i.e. 13 ticals = £1 sterling (practically). There is to be a 10 tical gold piece, known as *des*. Besides the tical, the coins actually in circulation are: silver coins—the salung piece = ¼ tical and the fuang piece = ⅛ tical; nickel coins—the 10 satang piece = 10/100 tical, 5 satang piece = 5/100 tical; copper coins—the satang piece = 1/100 tical. There is a paper currency in use, consisting of the 5, 10, 20, 50, 100, and 1,000 bats, or tical treasury notes.

Linear and Square Measure: 4 Kabiet = 1 Niu (.83 inches); 12 Niu = 1 Keup (10 in.); 2 Keup = 1 Sok (20 in.); 4 Sok = 1 Wa (80 inches); 20 Wa = 1 Sen (133 ft.); 400 Sen = 1 Yot (about 10 miles). I Square 'Sen' makes 1 *Rai* of paddy land. In surveys and official measurements, the metric system is often used.

Weights: 5 Li = 1 Hun; 5 Hun = 1 Fuang; 2 Fuang = 1 Salung; 4 Salung = 1 Bat (about ½ ounce av. or 15 grammes); 80 Bat = 1 Chang; 50 Chang = 1 Hap (picul), which is 133⅓ lb. av.

Capacity Measures: 4 Kham-men (handful) = 1 Chang-awn; 2 Chang-awn = 1 Thanan (a half coco-nut shell); 20 Thanan = 1 Thang (bucket); 1 Thang = 1 Sat (basket); 80 Sat or 100 Thang = 1 Kwien (cartload).

Banks: Hongkong & Shanghai Banking Corporation (Hongkong Bank Lane, Pl. E 7); Chartered Bank of India, Australia & China (Chartered Bank Lane, Pl. E 7); Banque de l' Indo-Chine (Oriental Avenue, Pl. E 7); Siam Commercial Bank (Yota Road, Pl. E 6).

V. Posts, Telegraphs, and Telephones: The postal service was introduced into Siam in 1881, and the telegraph service two years afterwards. There are at present several hundred post-offices in the country, though in the interior the daily collections and deliveries of the mail matter are few and far between, and the transportation is not speedy enough; yet it must be owned that a postal system exists throughout the country. Where no railway facilities exist, the mails are mostly conveyed by boats.

The post-offices in Bangkok are open daily at the following hours:

Post-Office	No. 1.	(Post & Telegraph Dept. Building, Pl. C5),	8 a.m. to 4 p.m.
do.	No. 2.	(Custom House Lane),	8 a.m. to 5 p.m.
do.	No 4.	(Royal Palace),	8 a.m. to 4 p m.
do.	No. 5.	(Korat Railway Station),	7 a.m. to 4 p m.
do.	No. 8.	(Yawaraj Rd.),	8 a.m. to 4 p.m.

(Post-Offices Nos. 3 & 6 have been temporarily closed and Post-Office No. 7. (Suan Dusit) is for the use of the Royal Palace of Suan Dusit only. On Sundays the counters are open only from 9 a.m. to 1 p m. The rate for speedy delivery is 16 satangs.)

Domestic Postal Rates:

Local Letters, for every tical, 5 satangs.
Inland Letters, for every tical or fraction thereof, 12 satangs.
Unpaid local letters are not transmitted by post.
Post Cards, Local, 2 satangs per card.
" " Inland, 3 " "
Printed Matter, (including newspapers, books, photographs, etc.).
Local and Inland, for every 3 ticals or fraction thereof, 2 satangs.
Newspapers registered at the P. & T. Dept.: up to 6 ticals, 2 satangs: for every succeeding 3 ticals, 2 satangs.
Patterns or Samples of Merchandise, Commercial and Legal Papers, Local and Inland, for every 3 ticals or fraction thereof, 2 satangs.
Local Parcels: for every 30 ticals or fraction thereof 10 satangs.
Inland Parcels: for every 30 ticals' weight or fraction thereof, 20 satangs.
Registration—Local and Inland, 15 satangs (in addition to the ordinary rate of postage).
Acknowledgment of Receipt: Local and Inland: 15 satangs.
Money Orders—The rates of commission charged for the issue of Inland Money Orders, are:

up to 20 ticals inclusive				25 satangs.
Over 20 ticals	up to	60	ticals inclusive	50 satangs.
" 60	"	100	"	1 tical.
" 100	"	200	"	2 ticals.
" 200	"	300	"	3 ticals.
" 300	"	400	"	4 ticals.
" 400	"	500	"	5 ticals.
" 500	"	600	"	6 ticals.
" 600	"	700	"	7 ticals.
" 700	"	800	"	8 ticals.

There are in Siam altogether over 60 telegraph offices, the length of the wire amounting to more than 7,000 km. Siam is in telegraphic communication with foreign countries by three cable lines, viz., Line via Moulmein, Line via Penang, and Line via Saigon. It is said that the Siamese telegraph authorities experience great difficulties in the laying and maintenance of telegraph lines,—difficulties which are largely unknown in most other countries—on account of the great extent of the country which is very sparsely inhabited, the vast extent of impenetrable jungles, as well as the damage to telegraph posts and lines caused by frequent thunderbolts, the falling of large trees, and injuries committed by elephants, wild buffaloes, and white ants.

Fees for Telegrams: Inland messages are charged for at the rate of 1 tical for the unit message of 10 words or less, and of 10 satangs for each word added above 10 words; urgent telegrams, three times the rate of the ordinary message. Foreign messages are charged for according to the international rate.

Telephones are installed only in Bangkok, where there are as yet comparatively few subscribers and the extent of the lines is inconsiderable.

VI. Climate, Hygiene, and Time of Visit:—*Climate.* The Siamese territory embraces 17 degrees of latitude, beginning at 4° and ending at 20° N. latitude, and all the characteristics of a tropical climate are almost everywhere in evidence. The average annual temperature is 82° Fahr. Between November and April comes the dry season, when the sky is clear day after day. The N.E. trade wind blows between November and January, when the weather is the coolest, the mercury often going down to 62° Fahr. The heat

begins to increase between February and March, and April is the hottest month of the year, when the thermometer rises to above 100°, though it is moderated to some extent by S.W. or N.E. breezes. In the hottest hours of the day, people generally take rest. The rainy season extends from May to October, when the S.W. trade wind blows. July and August are the wettest months, and, though sometimes slightly relieved by breezes, constitute the hottest period of the year.

Hygiene. The climate of Siam is not by any means healthy; though what is mostly dreaded by foreign visitors is not its tropical heat, but the presence of many kinds of epidemics. There is a dangerous kind of malaria which one is apt to catch in the forest regions. Those intending to travel in the interior should take strict precautions against attacks from these infectious diseases.

Time of Visit. The best time to visit Siam is between November and January, which is the dry season.

Chapter II. General Remarks of Siam.

I. Geography. Of all the countries in the peninsula of Indo-China, otherwise known as Farther India, Siam is the only country which has retained its independence. The country extends between 4° and 21° N. latitude, its greatest length measuring over 1,000 m. from N. to S., and between 97° and 116° E. longitude, being over 500 m. from E. to W. It lies between French Indo-China on the N.E. and E. and British Burma on the N.W., with the gulf of Siam on its S. border. The mountains which form the backbone of Siam extend from N. to S. along the frontier of Lower Burma, as far as the Malay Peninsula. The coast lines extend for some 1,700 m. and, though not much indented, make at several places fine harbours. The N. parts of Siam are mountainous, while towards the S. there extend wide fertile plains, which are mainly drained by the Menam and its numerous tributaries. The Menam is the river of Siam, which, having its source in the mountains and being bountifully fed by the Me-ping, the Me-ing, the Me-wang, the Me-nam-fe, the Nampat, etc., becomes by the time it enters the plains a large river, which annually overflows its banks and covers the neighbouring plains with a thick layer of very fertile soil, in the same way as the Nile. It is not without reason named the Menam, i.e. the 'mother of water.' Besides the Menam, there should be mentioned the Tachin, and the Meklong in the W., and the Salwin, which runs along the N.W. boundary before it enters Lower Burma. (In the Malay Peninsula there are scarcely any rivers worthy of mention; they are all small.) Area, about 200,000 sq. m.

II. History. Though Siam is the name by which the country is known among foreigners, the natives themselves call their country *Thai* or *Muang-Thai*, or the 'Land of Freedom,'—*Thai* meaning 'freedom,' and *Muang*, 'land' or 'country.' Siam is also known as the 'Land of the White Elephant,' the 'Land of Yellow Robes,'

etc.,—the former from the figure of a white elephant found on Siam's national flag and on the decorations for merit bestowed by the king, and the latter from the innumerable Buddhist priests found in the country, who all wear yellow robes.

It is a matter of deep regret to scholars that there are scarcely any records of the ancient history of Siam in existence. What few records there are, are mostly taken up with fables or mythological stories, unworthy of the name of history. It is only with the establishment of the Ayuthian Dynasty in the middle of the 14th century that we begin to step on solid ground of trustworthy history. It is not without reason that many scholars regard the period of the Ayuthian Dynasty, which extends from 1350 to 1767 A.D., as the middle period of Siamese history,—whatever may be known previous to that being relegated to the ancient period—and the period following it, that is since the beginning the present Bangkok Dynasty, as the modern epoch.

Ethnologists suppose that there were two aboriginal races who inhabited the regions now known as Siam—the Melanesians or Negritos, who now occupy the mountain fastnesses of the Malay Peninsula, and the Indonesians, who occupy lands along the Mekong, being the descendants of those once powerful aborigines who had these regions all to themselves. It is supposed that, in the 9th or 8th century before the Christian era, there began to pour in migrations of several tribes from South China; the most powerful of them and the one which finally became supreme in Indo-China was known as the Mon Khmer or Mon Annam. Thus in the course of several centuries, the aborigines were driven step by step into the mountainous regions of the interior, while some were pushed far South into the Malay Peninsula. About the 1st century of the Christian era the basin of the Mekong River was known as Cyama or Cyama Ratta, the name being of Pali (or Sanescrit) origin. This later got transformed into Siem or Syam and further into Siam. The dominant population of Siam, when they first came under the influence of Indian civilization, were most likely composed of the Mon Khmers, who came over from South China, and half-breeds resulting from intermarriages between these conquerors and the aborigines. The lands apparently were now split up into petty tribal states, but they were soon absorbed by the powerful Cambodian Empire, which grew up under the influence of Indian civilization, in the S.E. corner of the Peninsula. In the fold of this new empire the early Siamese passed several centuries of their history.

Somewhat later another tribe from South China made their appearance, following in the footsteps of the Mon Khmers. These were the Laos (or Ailaos), whose inroads began to take place in the 3rd or 4th century, and who, when they had well established themselves by victories over the older inhabitants, came to call themselves the Thai (or Tai) or 'the Free.' In the 6th century these extended their sway into Northern Siam, as far as the head-waters of the Menam, where they established the kingdom of Lamphun.

Now they came into conflict with the kingdom of the Sawankalok-Sokotai, which had already been established in the neighbourhood for several centuries. The bounds of the latter were pushed eastward to the coast of Annam, in order to make room for the new kingdom, which early in the 12th century was strong enough to wrest the Sokotai and Lopburi kingdoms both now tributaries to Cambodia, from that powerful empire. Under a great hero, Ruang, (latter half of the 13th century), the Lamphun monarchy reached the height of its prosperity, establishing its capital at Sokotai, and being henceforth known as the Sokotai Kingdom. But its unrivalled prosperity was short-lived. In the middle of the 14th century, Phya U-thong, the chief of the Thai tribes, which had already flourished in the delta regions of the Menam, established his seat at Ayuthia, and, throwing off his allegiance to the King of Sokotai, laid the foundation of a new kingdom, which now became known as the Ayuthian Kingdom. The struggle, however, continued with the Sokotai Kingdom, and it was not till the reign of the next sovereign (in the 15th century) that the Ayuthian Court found itself securely established in middle Siam.

The Ayuthian Court Period lasted from 1351, when Phya U-thong ascended the throne of Siam, assuming the name of Somdetch Pra Rahmah Tibaudee I, to 1767, when the capital Ayuthia was taken by the Burmese army, and the Ayuthian Kingdom, now under the rule of Pra Chow Tinang Suriya Marintara, came to an end. In this period of over 400 years, there took place two changes of dynasty, and the successive kings who reigned numbered thirty-four altogether. Under the rule of these kings Siam advanced in civilization, and the country's trade relations extended as far as Amoy and Canton, while later in the same period Europeans made their appearance. On the other hand Siam had throughout these years to wage almost incessant warfare with the Cambodians in the S.E. and with the Burmese in the W. The country suffered greatly from the invasion of the Burmese in 1568, the conflict lasting for several years afterwards, during which the Siamese were assisted by 500 Japanese warriors (according to Sir Ernest M. Satow), and it was only with the greatest difficulty that the invaders were finally driven off. At the close of the 16th century, the Siamese Kingdom embraced the middle and southern portions of the Indo-China Peninsula, extending from Chiengmai in the N. to the strait of Malacca in the S. Of Europeans, the Portuguese were the first to come, being followed by Dutch and French traders. The latter especially ingratiated themselves with the native rulers, who soon found themselves under strong French influence. But anti-French sentiments were not slow in manifesting themselves, and these were exploited by ambitious native leaders, who finally overthrew the dynasty (1690) and established a new one in its place. But difficulties now began to crop up, both in regard to domestic and foreign affairs, and the capital finally succumbed to the attacks of the Burmese (1767).

The new dynasty, which arose in place of the one overthrown, was founded by Phya Tak-Sin whose father was a Chinese. While Ayuthia was being surrounded by the Burmese army, this man was with the army on the E. frontier. As soon as the news reached him of the fall of Ayuthia, he at once marched to the scene of disaster, and, fixing his seat at Nontaburee (the present Bangkok), which, as compared with Ayuthia, was somewhat lower down the Menam, devoted himself to the restoration of peace and order throughout the much distracted land. But, unfortunately, this powerful man was seized with mental distemper in 1781, though the country was saved from again falling a prey to disorder by Chao Pya Chakkri, a most able lieutenant of Phya Tak-Sin. Chakkri now devoted himself with great earnestness to the maintenance of good order in the country, and finally, on the death of Phya Tak-Sin, assumed the supreme power himself, being formally crowned on June 13, 1782, under the royal title of Somdetch Pra Boroma Rahchah Pra Putta Yaut Fah. The new king, who was a pure Siamese, was not related by blood to his predecessor in the royal office, and so became the founder of a new dynasty, to which the present king, Somdetch Pra Paramendr Maha Vajiravudh Pra Monghut Klao, and all the present royalties of Siam belong.

III. Administration. Siam is an absolute monarchy, without a constitution. The king governs the country through a cabinet (Senabodi) composed of the chiefs of the nine departments of foreign affairs, interior, justice, finance, public instruction, agriculture, war, marine, and local government. These ministerial posts are mostly filled by near relatives of the king. The country is administratively divided, besides the Metropolitan District of Bangkok, into sixteen provinces (monton) as follows:

(1) Krung Kao or Ayuthia, (2) Nakon-Chaisi, (3) Rajburi, (4) Nakon-Sawan, (5) Pitsanulok, (6) Petchaboon, (7) Payab, (8) Nakon Rajasima or Korat, (9) Isarn, (10) Udon, (11) Pachim, (12) Chantaburi, (13) Chumpon, (14) Nakon Sritamaraj, (15) Patani, (16) Puket.

Each of these provinces (monton) and the district are governed by a high commissioner, while each of the several *muang* into which a province is subdivided has its chief; the muang again being divided into town or village administations. All the high commissioners of provinces, who are responsible to the Minister of the Interior, meet annually in the capital for a conference.

The judicial system consists of a primary court of justice (Muang Court) in each *muang*, and a higher court in each province (Monton Court), with the Court of Appeal and the Supreme Court (Dika Court) in Bangkok. There is also the Court of Foreign Causes in Bangkok, where disputes between foreigners and natives, as well as between foreigners themselves, receive their final judgment. These Courts are, for administrative purposes, under the control of the Minister of Justice, except the Supreme Court which is subject directly to the sovereign.

IV. Defense. The army is organized in ten divisions, each con-

sisting of two regiments of infantry, one cavalry regiment, two four-gun batteries, and one battalion of engineers. Its peace strength is about 12,000 men. The navy consists of 25 ships, of which the largest is the royal yacht, Maha Chakrakri of 3,000 tons, and the rest are small gunboats,—altogether constituting a fighting force of very little strength. There are 5,000 men available for service on board, besides a reserve of 20,000. The marine infantry, recruited from the inhabitants of the coastal provinces, between 18 and 40 years of age, numbers 15,000 in six shifts, besides a first and second reserve of 3,000 and 2,000 respectively.

V. Inhabitants. Besides the pure Siamese, the inhabitants of Siam comprise Chinese, Laos, Cambodians, Malayans, Burmese, Annamese, etc. These are generally not temporary sojourners in the land, but fixed residents, being in many cases the descendants of people who settled there several centuries back. These are hardly to be distinguished from the Siamese natives. There are, besides, cross-breeds between these different races and between them and the Siamese. Owing to the lack of any accurate census, it is impossible to give the numbers of these different races. The total population of the country is estimated at 8,500,000.

VI. Communications:—*Railways.* The railway lines now extend in different directions with Bangkok as the centre, but only a few trains, and these only in the daytime, are run on them. The cars are divided into 1st, 2nd, and 3rd classes, but, though the 1st class compartments are well enough equipped, there are not sufficient precautions taken against the wind-blown sand. Moreover there are no dining cars attached to the trains. There are, however, restaurants at the more important stations, e.g. Bangkok, Ayuthia, Lopburi, Paknampoh, Korat, and Pitsanuloke; but at minor stations, only fruit and drinks are sold, and this not at every station. The station buildings are generally two-storied and well-shaded by trees. The station masters are Siamese who can speak English.

State Railways: North Siam Lines (broad gauge, 871 km.). (1) Korat Line (Bangkok to Korat, 263.8 km.; in 8½ hrs. by mail trains). This line extends first from Bangkok to Ayuthia in a N. direction, and from the latter place to Korat in a N.E. direction. Several hundred kilometres have yet to be built before the line reaches the frontier of Siam.

(2) Eastern Line (Bangkok to Petriu, 63.4 km.; in about 2 hrs.). Starting from Bangkok, this line leads in a general E. direction, ending at Petriu on the river Bang Pa Kong; the line will be extended further towards Chantaboun.

(3) River Line (Makasan to the River Station, 4.9 km.; in 17 min.). This is practically a line within the limits of Bangkok; the River Station is at the S. end of the city, and on the bank of the Menam.

(4) Sawankaloke Line (Ban Dora to Sawankaloke, 28.9 km.; in 1 hr.). This line, starting from Ban Dora Station on the Northern Line leads in a W. direction to Sawankaloke.

(5) Northern Line (Ban Phaji to N. Lampang. 550.6 km.; Bangkok to Pitsanuloke in 11 hrs., thence to N. Lampang in 10 hrs., by mail train). This line starts from Ban Phaji and, running N. and taking in the towns of Lop Bouri, Pak Nam Po, Pitchit, Pitsanuloke, Ban Dora, and Ban Pin, reaches N. Lampang.

South Siam Lines (one metre gauge, altogether 627 km.). (1) Bangkok Noi to Koh Lak (302 km.; in about 12 hrs.). The line runs W. between Bangkok and the river Meklong; near Bang Pong it takes a S. course till it ends at Koh Lak (also known as Ban Krut) in the Malay Peninsula. There are no through-trains all the way, and travellers have to stop overnight at M. Kuwi or Prachuap Kirikan, about 30 km. of Koh Lak. This line will be extended further S. till it is brought into connection with the British lines from Penang and Singapore. (2) Trans-Peninsular Line (325 km.). The main line extends from Trang on the W. coast to Singora on the E. coast of the Malay Peninsula, for a distance of 290 km., with a branch of 35 km. from Kao Noi (Ronpiboon) to Nakon Srithamarat. On the main line is run daily one train (in about 10 hrs.) and on the branch line 2 trains (in 1½ hrs.).

Private Railways. (1) Paknam Light Railway (20 km., in about 1 hr.). The line runs along the Menam from Bangkok to Paknam; 4 trains daily from each end. (2) Meklong Railway (67 km.). The line runs W. from Bangkok, first to Tachin and then to Meklong, both towns at the mouths of the Tachin and Meklong respectively and on the N.W. coast of the gulf of Bangkok.

The Meklong Railway consists of one section of 33.1 km. (in 1½ hrs.), between Bangkok and Mahachai (on the E. bank of the Tachin) and another section of 33.8 km. (in 1½ hrs.), between Bang Hlame (on the W. bank of the Tachin) and Meklong. Through passengers are conveyed over the Tachin River by a steam ferry. The journey between Bangkok and Meklong by train (including the ferry) usually takes about 3 hours.

(3) Prabat Line (19 km., in 7 hrs.). This 2 ft. 4 in. gauge line starts from Tarua Station of the Royal State Railway Northern Line and leads to Prabat. The town of Prabat is famous for possessing the so-called footprint of Buddha, which attracts so large a number of pilgrims that, with a view to their convenience, Prince Nara built and owns this line.

Highways. In Siam there are no highways worthy of the name,—all over-land communications, other than rail, being effected by means of river routes, of which there are very many. Modern macadamised roads are found only in Bangkok, but nowhere else. In all those regions of the interior where water routes are not available, and which are also out of reach of the railway, there are very fertile lands lying wild. Besides, many parts of the interior of the country, which are largely occupied by primitive forests and wild jungles, are unfit for the abod of peaceful inhabitants, owing to dangers from wild animals and to the risk of malarial fevers of all kinds. Apparently the day is yet far off when all parts of the country will be connected together by a net-work of highways.

Coastwise and Riverine Navigation. There are two lines of coastwise navigation which are run with Bangkok as their base. These are (1) Bangkok and Eastern Coast Line and (2) the Bangkok and Western Coast Line. The two lines maintain a weekly stated service run by the Siam Navigation Co. The ports of call in the case of the former are Siracha, Rayong, Chantaboun. The E. coastal regions are as yet out of reach of the railways, and with them the steamer service is practically the only means of communication. Hence the ships find a considerable traffic both in passengers and merchandise. The ports of call on the W. coast are Chumpawn, Langsuan, Bandon, Lakwan, Singora, Patani, and Singapore.

Most towns and cities are situated by the river, and houses are built in many cases on piles above the water, while a large number of people have their abode in boats. As may be expected, there is everywhere on rivers and canals quite a busy traffic, which is carried on by means of native boats. There are also on the rivers and canals of Bangkok and neighbourhood several lines of motor-boat or steam-launch services.

(1) Menam Motor-Boat Co., Ltd.:—Line 1.—Bangkrabue to Bang Quang, Muang Nawn.

Boats leave Bangkrabue for Bang Quang, Muang Nawn, and Pakret, daily as follows: 6.40, 7.30, 8.00, 9.30, 10.30, 11.40; a.m., 12.10, 1.30, 2.30, 3.10, 3.50, 4.40, 5.30 p.m.

Bangkrabue to Samkuk ... ... 2.30 p.m. daily.
„ „ Kai Kok Yai ... ... 1.00 „ „

Line 2.—Tanon-tok to Paklat, in connection with Paklat tram-cars to Thahin. Boats leave Tanon-tok every hour and half hour from 6.30 a.m. to 7.30 p.m.; also after 7.30 p.m. when there are sufficient passengers.

Line 3.—Tha Chang Wang Luang to Klong Bangkok Noi.

Boats leave Tha Chang Wang Luang landing daily at 7.30, 8.30, 9.30, 10.30, and 11.30 a.m.; and at 12.30, 1.30, 2.30, and 4.30 p.m.

Line 4.—Klong Samrong Lock to Banghia.

Boats leave the Lock in connection with the Paknam train at 10.45 a.m. from Bangkok.

(2) The Transport Co. 'Motor,' Ltd. has its headquarters in Klong Rangsit and its boats run to and from several places in the district.

(3) The Siam Steam Packet Co. has its headquarters at Anthong and runs boats from there to Petriu, etc. The local secretaries are the Bangkok Dock Co., Ltd.

VII. Trade. The trade, especially the foreign trade, of Siam is controlled by foreigners, a large number of whom are Chinese. Bangkok is the chief market for the foreign trade. The following figures show the value of the country's exports and imports for the past three years:

	1912–1913	1913–1914	1914–1915
Imports	96,225,327 ticals	90,788,838 ticals	78,477,250 ticals
Exports	81,970,561 „	115,520,333 „	101,643,324 „

VIII. Industries. (1) **Agriculture.** Rice is the chief agricultural product of Siam, and forms a staple article of export as well as the chief food of the people. In 1914–1915, its export amounted to 18,394,043 piculs, valued at 85,346,572 ticals. The process of cultivating rice begins in May, when the rainy season commences. The paddy fields are now well ploughed up to a depth of from 8

inches to 2 ft., according to the nature of the ground, by means of ploughs drawn by buffaloes. In June the seed-rice is sown by scattering the grains broad-cast over the fields, where they are left to sprout and grow, without any attempt at manuring. In many cases, however, seedlings are first raised at nurseries, and then these are transplanted to the fields. The early kind is harvested in November and the later kind in the following January. The first process of harvesting consists of mowing, the upper half of the rice plants being cut away, except in the case of a certain kind of rice which grows in deep water, and of which only the ears appear above the surface; these are reaped from a boat. The latter kind is not of the best quality. After the sheaves are brought in, they are spread out to a thickness of one or two feet on a hard, even ground, where they are thrashed by the treading of buffaloes. The unhulled rice is now taken to rice mills to be hulled and cleaned. There are a large number of these mills, there being as many as thirty in Bangkok and neighbourhood, all on the banks of the Menam. The larger of these mills each produces on an average about 400 tons of cleaned rice a day. Excepting a small number owned by Europeans or Siamese, most of these mills are run by Chinese.

The rice produced in Siam is usually divided into four kinds: the *khao sau*, which is the common rice of Lower Siam, the *khao noi*, the *khao deng* or 'red rice,' and the *khao rai kong* or hill rice. Other agricultural products of Siam are pepper, sesame, hemp, tobacco, cotton, coffee, and sugar; among fruits, betelnut, coconut, durian, mango, and mangosteen.

(2) **Fishery.** Fishing is one of the widespread occupations of the Siamese. The seas near Bangkok swarm with fish of the kinds usually found in the tropics. The rivers also abound with fresh-water fish. The fishery season lasts from June to December (or January). The fish caught are either sent at once to Bangkok or are salted and dried for sending inland or for exporting to Hong-kong and Singapore. In 1914-1915 the export of fish was valued at 994,925 ticals.

(3) **Forestory.** Teak is the representative product of the Siamese forests. Its supply is practically inexhaustible, while there is a large foreign demand for it as timber for warships and steamers. The mountainous regions of Northern Siam are especially noted for their rich teak forests, in particular the three provinces of Bayab, Pitsanuloke, and Nakon Sawan, where teak-felling forms an important industry. The trunks of teak-trees, after being felled and cut up into suitable sizes, are floated down the mountain streams, after these get full with the coming of the rainy season. The local timber markets in the N. are the five towns of Chiengmai, Nan, Phre, Lampang, and Lampoon. In 1914-1915 the export of teak was valued at 5,044,459 ticals.

Teak, or Tectona grandis, grows to a height of 120 to 150 feet, with a girth of 20 to 25 feet. It bears drooping leaves 8 to 12 inches long and white flowers of a conical shape. The tree flourishes best in a comparatively dry forest, where

the average annual rainfall is less than 50 inches. Its timber is of a yellowish-brown colour, hard and strong, and, owing to the presence of a resinous oil the wood is extremely durable, and nails driven into it do not get rusted. The resinous oil also protects the timber against the ravages of white ants.

Teak-trees are felled by first sawing into the trunk near the ground in the form of a ring, deep enough to let the trees gradually die as they stand. After about two years, they are pulled down and cut up into suitable lengths. This is done in the dry season. When the mountain streams get flooded, owing to the coming of the rainy season, the timber is floated down to the nearest river. Where flooded valleys are not available, it is carried over to the river bank on the backs of elephants or on carts drawn by buffaloes. In some cases mechanical appliances, such as a suspended cable wire, are employed to effect the same purpose. At the river bank, the timber is tied together into rafts of 20 to 30 logs each and first brought over to Paknampo for official inspection and the payment of an inland tax and then to Bangkok. On one of these rafts a whole family would be engaged in navigating it all the way from the Laos regions in the N. of the country. At Panknampo the logs of timber annually inspected amount to 120,000. At Bangkok these are all carried to different saw mills, which are nearly all managed by foreigners.

(4) **Mining.** Gold, copper, iron, tin, precious stones, coal, and nitrate deposits are found at different places in Siam, though tin-mining is by far the most important. Prospecting for gold has been carried on at Bangtaphan, Wattana, Kabin, Tomh, etc., by Europeans, but no good results have been obtained, owing to climatic and other difficulties; the only gold-mines now actually worked are a few in the Malay Peninsula owned by Chinese. Copper is found in Chuntuk and neighbourhood, and, though at one time an attempt was made by a Dane to work it, nothing came of it. Iron was formerly produced to a considerable extent in Northern Siam, as may be learned from history, but very little is now obtained. All the iron now used in the country is imported from foreign lands. Coal was found some years ago at Gherbi, Puket Province, but it was of very poor quality. Rubies and sapphires are abundant, Siamese sapphires in particular being famous all the world over. These precious stones are mostly obtained in the S.E. of Chantaburi Province, from the alluvial deposits near river courses. Sands containing these precious stones are taken from under the surface by boring, and then, as the sands are washed in water, the gems are picked up. Since the mines are worked by individuals or small companies, and the stones are sold on the spot to native merchants, it has been found impossible to estimate the general output. Tin is the only mineral of the country that has a large output. The well-known mines are found in Puket Island, Takuapa, Panga, Gherbi, and Trang on the W. coast of the Malay Peninsula, and in Rahman, Nakon Sritamaraj, and Jalar on the E. coast.

IX. Religion. Buddhism is Siam's state religion. The king is the protector of that faith, of which nearly all the people are adherents. But all forms of religion—Christianity, Mohammedanism, Hinduism, etc.,—are not only tolerated, but the Government shows itself favourably disposed to each incoming new faith by granting lands for building churches and otherwise giving encouragement of different kinds. It is a significant fact and worthy of notice, that in Siam there has never taken place religious persecu-

tion of any kind whatever. From certain stone monuments and old images of Buddha, which have been recently discovered, we learn that Buddhism was first introduced into Siam between the 5th and 6th centuries of the Christian era, directly from India, in the same Mahayana form—the Great Vehicle School—which prevails to-day in Tibet, China, and Japan. In 1044, however, there was introduced a Siamese translation of the compendium of Buddhism, containing the doctrines of the Hinayana School—the Small Vehicle School—compiled by King Parakkamabahn of Ceylon, and there thenceforth began to prevail these new form doctrines, which finally brought Siam over into the fold of Southern Buddhism, in which Burma, Ceylon, and Cambodia also find themselves.

In Siam it is the prevailing rule that once during their life all men should go through a period of discipline in a monastery. Hence the large number of monasteries (about 10,000) and the numerousness of their inmates (about 300,000). The periods of time which men spend in a monastery are not uniform. Some spend between a month and a year, others their whole life. Some enter the monastery in their youth, before marriage, others in middle age, or even later. A large monastery in Bangkok holds two to three hundred monks. These inmates of monasteries are accorded different ranks according to their attainment in scholarship or the length of time they have spent as monks. But they all shave their heads and wear the coarse yellow robe, and otherwise in their daily life have practically the same treatment: e.g. having only a morning and noon meal, and no solid food allowed in the afternoon. They pass their time in the reading of the sutras, partly in the Pali. On the 1st day of a month (lunar calendar) and the 15th day (when the moon is full) are the *Wanphra* or Buddha's days, when the temples are usually full of eager worshippers. The Siamese are devout Buddhists and by them the monks are held in veneration. Adolescence, marriage, death, the building of a house, change of residence, etc., are all celebrated with the presence of Brahmin or Buddhist monks. Each morning the Buddhist monks regularly make a round of calls at the houses of laymen, carrying their 'begging bowls.' They come quietly and stand at each door, and, accepting an offering as quietly leave it, not even giving thanks—the idea being that they are not begging for the benefit of the beggar, but rather in order to call forth the spirit of thank-offering or charity on the part of the giver.

In the dry season it is the custom for monks to make a long journey with the object of visiting other monasteries. These itinerant monks are each accompanied by a boy known as a *yom* (attendant boy), who carries the requisites for the journey, and they go through forest-covered districts in the interior. When tired, they set up a large umbrella which is carried by the boy and rest under it, and at night they cover the umbrella with a large piece of cloth and turn it into a tent, under which they sleep.

Christianity, Roman Catholic as well as Protestant, has been

introduced. The Roman Catholics began their mission work as far back as 1660, and to-day they have some fifty churches throughout Siam. Among Protestants, the American Presbyterians are quite active.

X. Education. While the modern system of education has but recently been introduced into Siam, there prevailed from early ages a system of elementary education conducted by the numerous Buddhist monasteries of the country. Each monk was a teacher to one or more young pupils, who, side by side with the menial service they performed for their superiors, took lessons from them in reading and writing. The modern schools are as yet found only in Bangkok, but efforts are being made by the educational authorities to have them established all over the country. The elementary schools are of the ordinary and higher grades, together taking up six years of the child's life. Above this comes the middle school, comprising a course of three years. Besides these there are the normal training institute, the law school, the military academy, the medical school, and the training institute for officials. The Educational Department at Bangkok every year sends abroad a certain number of students who have shown signs of exceptional ability.

Christian missionaries have contributed much towards the extension of modern education in Siam, especially in the line of female education.

In connection with education, mention must be made of a library in the Royal Palace. It is also a club house, containing different provisions for affording recreation. For a fixed annual fee all persons of certain qualifications are admitted.

There is an educational association, which owns a building and issues an educational magazine. All the officials of the Educational Department and persons engaged in teaching are members of the association. They often meet to discuss educational affairs or to hear lectures on special subjects.

XI. Customs and Manners. Although Europeans began coming to Siam in the 16th century, their influence on the habits and customs of the people has been exceedingly slight. With the large mass of the population, who, favoured by the bountiful nature of a tropical climate, know scarcely anything of the meaning of competition and the struggle for existence, even the presence of Europeans in their midst was no inducement for imitation or change of any kind. To live, to satisfy the simple demands of life, required no effort on their part. At the same time all their energies seemed to be concentrated in adorning with complicated ceremonies the chief events of life: adolescence, marriage, burial, etc., etc. These ceremonies have of late become much simplified. It may be stated *en passant* that the upper-class Siamese who receive a modern education become officials. Nearly all the rest are farmers. There is no middle class. Trades are carried on by Chinese.

The Siamese have a custom of shaving their children's heads, even just after their birth, except at a small spot near the forehead

A Siamese Yellow Robed Monk.

where they leave a tuft of hair, which, as a child grows older, is plaited and fastened with metal pins, which are jewelled in the case of the wealthy. The forelock or tuft of hair is shaved off on reaching the 11th year (adolescence), both in the case of boys and girls. The shaving of the forelock of a boy or a girl forms an important event in a family, and it is performed on an auspicious day (chosen by a Brahmin priest after consulting astrology) with much ceremony accompanied by the reading of sutras, —some great personage of a village at the request of the family generally using the razor with his own hand. In the case of children of the royal family, the king performs the act with a razor profusely adorned with gold and gems. The occasion is further celebrated with theatrical, or musical, performances, etc., to which all the relatives and friends of the family are invited.

Young children of the well-to-do classes are often painted all over their bodies with a yellow pigment, supposed to ward off mosquitoes and other insects. In order to teach them swimming, mothers often place their young children in water, with a small floating apparatus of tin attached to each arm.

The second great event of life is marriage. The ordinary age for matrimony is 17 or 18 years in the case of young men, and 14 or 15 in that of girls. The matches are arranged by a go-between, and the first duty of a would-be bridegroom is to provide a house to take the bride to and to make a present of 'milk-money' (gold and silver) to the bride's mother, in order it is supposed to remunerate her for all the labours of bringing up her daughter The wedding ceremony is conducted by Buddhist priests and consists in the reading of the sutras and is followed by a banquet to which the relatives and friends are invited. Grand theatrical entertain-

ments are often held in connection with the nuptials. The wedding ceremony thus entails much expense, and one good result of it is the fact that Siamese do not care to repeat it, if they can possibly help it. Polygamy is permitted, but the first wife always occupies the position of honour and preeminence in the harem. The lower classes are generally content with one wife, and those of the upper classes who have received European education are more and more becoming monogamous in practice.

The dead are usually cremated; only those dying an unnatural death are not allowed this form of burial. Formerly persons dying from epidemics were not allowed burial by cremation, but this interdict has recently been removed. As soon as a man dies, his body is liberally smeared with ointment and antiseptic preparations and placed in a large jar, which is then hermetically sealed. This bier is generally kept in the house for several months, sometimes for several years before the body is cremated: for instance the body of the late king was kept in the palace for two years, and that of the late crown prince three years. The cremation ceremony takes place after Buddhist rites. The body is transferred from the jar into a wooden coffin and is conveyed to a temple, where religious services take place for several days. Then the corse is placed on a pyre, and fire is first set to it by the oldest person present, followed by all the relatives and friends of the deceased. In the case of a wealthy man, the burning takes place in the midst of much noise and merriment consisting of theatricals, fire-works, magic lantern shows, musical performances, etc. This curious feature of the funeral is supposed to be provided in order to give consolation to the soul of the departed. The priests officiating in the funeral are richly rewarded, while the poor are the recipients of much charity. It is estimated that generally one-third of the property left by the deceased is spent in funeral expenses. The ceremony is conducted in a most elaborate style in the case of royal personages. In that case there is built a large and gorgeously ornamented wooden structure called the *Premane*, in order to receive the body to be cremated. Around this are several other buildings, some set apart for the use of priests, others for theatricals, shows, and other amusements. The whole funeral rites last for several days, ending when on the last day the king sets fire to the fuse leading to the pyre. No part of the building is ever used for any other purpose than the cremation function.

XII. Siamese Dress. Both men and women wear *panung*, a piece of cloth 1 yd. in width and 3 yds. in length, which they wind round their waists, so that it hangs down and covers the thighs. The material universally used for this purpose used to be a home-made cotton cloth, till of late a machine-made cloth from abroad (Germany, India, Great Britain, etc.) has largely taken its place. Among the nobility silk instead of cotton-cloth is used. The *panung* is generally plain and unfigured, though the ladies of the royal court keep *panungs* of seven different colours, so that each day

of the week they may appear in one of a different colour. The common folks go about bare-foot and also wear nothing on their lower legs, nor the upper part of the body, except the women who cover their breasts with a narrow piece of cloth. Among the nobility, both men and women wear shoes and stockings, and, as a covering for the upper part of the body, men wear white duck coats and women a thin kind of shawl, which they fasten by means of breast-pins adorned with jewels. Except among the military, foreign dress is rarely worn.

XIII. Hair-dressing. In Siam both men and women cut their hair short. The latter keep it about four or five inches long and smooth it back, without using any ointment. Concerning this singular custom of women cutting their hair short, there is an interesting story. According to the story, once upon a time a Siamese walled city was besieged by Cambodians, when the men of the city were out fighting elsewhere, and only women and children remained behind. A defense was out of the question. In this emergency a wise woman arose and proposed to her sorely perplexed sisters, that they should all cut their hair off short like that of the men and appear upon the castle walls in men's apparel, bearing swords and bows and arrows. They hoped thus to frighten away the enemy. They succeeded, for while the Cambodians were hesitating to take the city by storm, the Siamese men came back, and the Cambodians who found themselves between two fires took to flight, suffering great slaughter.

XIV. Food and Drinks. Rice is the universal article of food, and fish forms an indispensable subsidiary article. As condiments, curry is universally used and also a preparation made of spices, shrimps, pepper, onions, salt, etc. Salt-water fish come from the mouth of the Menam and its neighbouring seas, and rivers and lakes throughout the country abound with fresh-water fish of different varieties. At meals, the members of a family squat round a large dish or dishes on the floor and help themselves with their own fingers. Except among the upper classes, spoons of any kind are rarely used. The remainder of the food is thrown down for the hens and dogs which wait below. The dishes are washed and placed in a basket to dry. The people take little liquid food of any kind, a small quantity of hot water or tea being taken with the meal. A universal intoxicating liquor is the *arak*, which is brewed from rice or sugar. The use of any foreign drinks is confined to a very limited circle. The people of Bangkok obtain their drinking water from the river Menam, purifying it with alum, or otherwise depend on rain water which is collected and kept in large casks, enough to last from one rainy season to another. A modern water system has been introduced into Bangkok, but in any case it is never safe to drink any water unless it has been well boiled. The Siamese are fond of strong tobacco. Generally they chew native-grown tobacco, which is wrapped up in banana leaves. Some

are seen smoking cigars. The use of opium is not so universal as in China. The edict prohibiting the sale of opium issued in 1838 has remained a dead letter. It is now a Government monopoly and this is believed to have a discouraging effect on the spread of this evil habit.

Betel-nut chewing is a wide spread habit, regarded as indispensable to the women of all ranks. The betel-nut is a preparation made of the nut of the areca palm, lime (sometimes tobacco also), and the leaves of the betel-pepper. It has an astringent taste, gives a red colour to the saliva, and blackens the teeth as well as the gums. To those not used to it, it causes dizziness and severely injures the inside of the mouth. The natives believe that betel-nut chewing has the effect of strengthening both the teeth and gums. At a Siamese banquet it takes the place of the dessert course. Ladies have a tiny betel-nut box (two or three inches square), which they carry wherever they go. These boxes are sometimes most elaborately ornamented with gold and jewels.

TYPICAL HOUSE IN SIAM.

XV. Houses. The Siamese have little to show as a distinctive style of architecture. While the royal palaces and the residences of the nobility are generally built in a foreign style (the renaissance style), the houses of the common people are of teak wood, their floors being raised high above the ground because of the flood during the rainy season. The use of teak is by no means a luxury,

as it is most abundant everywhere. The slanting roofs of very steep slope are generally thatched with attap leaves. In better class houses, glass windows and curtains are found. The house is reached by a series of steps, and on the ground near by is kept a jar filled with water for washing the feet of persons entering the house. There is generally an odd number of rooms, the smallest house containing three rooms,—a parlour, bed-room, and kitchen. The rooms are floored with boards and contain neither chairs nor tables. They are, however, surrounded by wide verandas, on the walls of which are hung many framed pictures and various other ornaments. The ordinary guests are received at the veranda, where they are served with tea in Chinese fashion and also invariably with betel-nuts. In the kitchen food is cooked for the two meals of the day, a small, portable earthen-ware furnace being used for the purpose.

XVI. Amusements. The Siamese are greatly addicted to gambling. There are many lottery and gambling houses in Bangkok, nearly all kept by Chinese, who pay handsome royalties to the Government. These in fact constitute an important item of the revenue. But theatricals and cinematograph shows are even more popular than lotteries or gambling. The common themes of theatricals deal with heroes and heroines of historical fame, with mythological stories of gods and goddesses amply interspersed. Of late a new style of play has come into vogue, in which mostly actresses take part. Wealthy Siamese have a private stage of their own. Cock-fighting and fish-fighting are also popular and are accompanied by much betting. Kite-flying, too, is a very favourite amusement. The season for this extends from February to April, when in the afternoon there usually prevails a south wind, which precedes the S. W. monsoon. Many thousands of people, both young and old, then gather in the Premane Ground in order to fly kites. On these occasions, as may be expected, there are a great number of cords, attached to different kites, running in all directions in the air, and the chief excitement consists in each flier attempting to entangle his cord with another's and give it a strong, continuous pull, so as to bring the other kite down to the ground. Of late the game of foot-ball has been introduced.

XVII. Festivals. The 1st day of April (solar calendar) is observed as the New Year's Day, with official functions in the Court; but with the people in general it is the birthday of the Buddha, which comes about a week after the New Year's Day, which occasions the great fête of the year. The fête lasts for three days. On the first day there are provided at each house bananas, pomelos, oranges, and other fruits, as abundantly as the family's means will allow, and priests and other guests are lavishly feasted. On the second day temples are thrown open, and all the inhabitants of the country visit them arrayed in their best apparel, in order to pray for prosperity and good luck throughout the year. On the third day the people indulge in gambling and games of all kinds—this being the

day given up to pleasure. Not only the Siamese, but Laos, Burmese, and Cambodians who are resident in the country take part in the fête. At this season of the year various religious functions take place in the royal court, and on the night of the second day of the Buddha's birthday fête, a gun is fired every twenty minutes throughout the night, with the object of frightening away the devils from the royal city.

Teu Nam or the Water-Drinking Ceremony. Twice in the year, viz. on the 3rd day of the lunar month (about 15th March) and on the 13th day of the 10th month (about 5th October), there takes place in the principal temple near the royal palace a solemn function of 'water-drinking.' On this occasion all the members of the royal family, as well as the military and civil officials, gather in the temple, and each in turn presents himself before the king, making a profound obeisance, falling on his knees, and then drinking of the water contained in a large golden jar, in which are soaked spear-heads and other instruments of war, and sprinkling it on his forehead. The jar is placed near the royal seat. This is a great oath-day, and formerly the officials on taking this oath were paid the next six months' salary in a lump sum. The officials, who live far from Bangkok and cannot personally present themselves before the royal presence, gather in the office of the chief functionary of the locality, where the holy water has been sent from Bangkok and go through a similar process of drinking and sprinkling. It is said that, of late years some of the foreign employees have been taking part in the function to testify their loyalty to the Siamese monarch.

The Rice-Planting Ceremony takes place in the first part of May, when the Minister of Agriculture, as the royal deputy, leads a long procession of the functionaries under him and their attendants to a place outside the city, where the ceremony is appointed to take place. Formerly it was considered a privilege of the persons composing the procession to take away without remuneration anything that took their fancy in the shops along the way. On the arrival of the procession at the spot appointed for the purpose, there takes place a reading of the Sutras by Burmese priests, and then the Minister of Agriculture approaches a pair of the bulls, which are yoked to a plough and decked all over with flowers, and for about an hour goes through the process of ploughing the field. After the ploughing is over, four young court ladies appear and sow the rice seed, scattering the grains in the ploughed part of the field. This ends the ceremony. It is said that the king is often present among the spectators *incognito* to see and enjoy the ceremony. The seeds of other important food-stuffs are also scattered on the ground so that the bulls may eat them. If the animals seem to show a special liking for peas, for instance, then it is taken as an indication that for that year there will be a rich crop of peas. People also observe the position of the lower end of the *panung* worn by the Minister of Agriculture, at the moment when he takes hold of the plough. If the panung comes down to the ankles, there will be little rain for

BANGKOK
Scale 1:40,000
English Mile
Kilometres
REFERENCE NUMBER
1 Prince Nakon Rachasima D.E.2
2 Infantry Barracks D.2
3 Parusakawan Garden E.3
4 Wang Chan D.E.3
5 Prince Lopburi D.2.3
6 Prince Pachin D.2
7 Prince Ratburi
8 Prince Nakon Sawan
9 Gendarmerie C.3
10 Prince Naret
11 Prince Adison
12 Borispah Court No. 2
13 Satri Witaya School D.4
14 Sao Ching-cha Market
15 Prison D.5
16 Prince Pichit
17 Prince Tewa Wong
18 Wat Rachabopit C.4.5
19 Local Government C.4
20 Royal Military College
21 Saranrom Palace
22 Wat Prakeo
23 Ministry of the Interior
24 Ministry of Finance B.4
25 Foreign Office
26 Naval Engineers
27 Wat Racha pradit C.4
28 Saranrom Garden C.5
29 Agricultural Department
30 Cavalry
31 Prince Pichai
32 Prince Pisanulok
33 Royal Survey Department
34 Rajini School
35 Austrian Consul
36 Rachabuna School
37 Siam Electricity
38 Ministry of Public Instruction D.5
39 Royal Irrigation Department C.5
40 Harbour Department E.6
41 Siam Bank
42 Hongkong & Shanghai Bank E.7
43 Standard Oil Co.
44 British Legation
45 American Legation
46 Custom House
47 Chartered Bank
48 French Legation
49 Oriental Hotel
50 Assumption College
51 French Bank

the year. If the lower end of the panung is pulled high up to the knees, there will be too much rain. If midway between the two, there will be moderate rain, resulting in a rich harvest for the year.

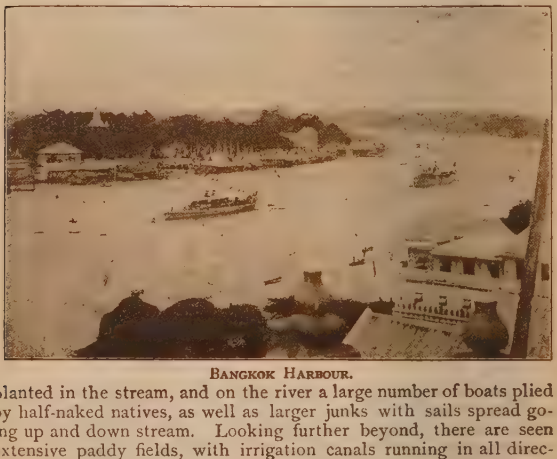
Each year when the rainy season is over, the King of Siam spends about two weeks in making his customary round of visits to the different Buddhist temples of Bangkok. On these occasions the king goes in a boat, about 50 yds. in length, manned by 60 rowers on each side, each clad in a uniform of red and using a long oar. The bow and stern of the ship are both turned up to an equal height. The royal seat is near the stern, raised on four pillars and surmounted by a highly ornate, tower-like canopy. In front and behind the royal seat stand attendants holding up large umbrellas, which look like golden cones. The boats occupied by the princes of the blood and high dignitaries and other members of the suite are altogether ten in number and somewhat smaller than the king's boat. On landing at an appointed place, the king rides in a sedan-chair to the temple, when all along the way the people prostrate themselves on the ground, keeping silence as a mark of supreme respect. For about half an hour the king occupies himself with the ceremony of worship in the temple, into which the public are not admitted, and when finished the royal procession returns to the boats, in order to visit another temple,—the next in the order of that day's programme. To the temples outside Bangkok the king dispatches deputies, his personal pilgrimage being confined to the temples in the city.

XVIII. Notable Products of Siam. In agriculture, rice, and in forestry, teak, form the notable products of the country. Among animals, elephants are most intimately associated with the life of the Siamese. Ordinary elephants are found useful in supplying labour in many ways, but the white (not snow-white, but light ashygrey) elephant—Chang P'henak or Albino elephant—is a sacred animal and is worshipped as such by all classes of the people. This custom arose with Indian Buddhists, who regarded the white elephant as an incarnation or avator of Buddha. According to Hindu mythology, the white elephant was one of the seven companions of the Maha Chakrawarti Raja, or universal monarch, and the Hindu princes have always vied with one another in keeping a large number of white elephants. They even waged wars with a view to securing those animals. To-day the worship of white elephants is confined to Siam, the idea of regarding it as sacred having died out in India and elsewhere. At the Royal Palace in Bangkok, white elephants are kept with great care, their maintenance forming a regular item in the annual budget of the Royal Household. At Ayuthia an elephant hunt occasionally takes place (see P. 261).

Siam is also well-known for its cats. The most celebrated of the species is the kind known as Laos cats, which have light chocolate-coloured hair and blue eyes. They are gentle and well-behaved. One of these cats may be purchased for about 10 ticals.

Route XXI (A). Bangkok and Environs.

Approach to Bangkok. The traveller, coming by steamer either from Singapore or Hongkong, sees, as the ship approaches the mouth of the Menam, the island of Koh-si-chang to the right. The estuary at its entrance is about a mile wide, and on the right lies Paknam, a subsidiary port of Bangkok with a fort commanding the passage of the river. Pakman is connected by a light railway with Bangkok (20 km., in 1 hr.). Off the port and in mid-stream is an islet overgrown with luxuriant vegetation, out of which there rises the cone-shaped tower of a temple, which is visible from afar off. The temple, which commands a fine view of the river, is a celebrated one, and on its festival day is visited by the King of Siam, when a boat race takes place as part of the festivities. As the ship goes higher up the river, on the forest-covered banks on both sides are seen the characteristic Siamese houses, standing on tall posts, firmly



Bangkok Harbour.

planted in the stream, and on the river a large number of boats plied by half-naked natives, as well as larger junks with sails spread going up and down stream. Looking further beyond, there are seen extensive paddy fields, with irrigation canals running in all directions, and finally many chimneys sending off smoke, and the painted towers of Buddhist temples, which tell the visitor that Bangkok is close at hand. The ships, after many windings, now arrives at its landing place: at the so-called Borneo, in the case of ships of the Straits Steamship Co., or in mid-stream or before a rice-mill, according to its convenience

Rivers and canals run in all directions in Bangkok and neighbourhood, and many people are said to live in floating houses.

These consist of rafts, upon which the houses are built, the raft being kept stationary by means of strong piles planted in the river-bed. Some people keep shop in their boats, going about selling fruits,—coconuts, bananas, durians, mangosteens, etc.

Means of Conveyance:—*Electric Tramways.* Through the principal streets of Bangkok, run tram lines, owned by two tramway companies (Siam Electricity Co. and Siam Tramway Co.), which, however, operate the service practically in common. Of these lines, which amount altogether to 23 m., one running from Bangkolem (the city limit) to the Royal Palace is 6 m. long. In the city the cars are operated between 6 a.m. and 12 midnight, and each car is divided into a first class and second class compartment; the fare is charged by sections (the lines being divided into different sections of almost equal length), at the rate of 10 satangs (1st cl.) and 5 satangs (2nd cl.) per section.

Automobiles, Carriages, and Rikishas. The tramcars are used mostly by the natives. Foreigners generally ride in automobiles, carriages, or rikishas. *Fares*—Automobile, seating 5 persons, 5 ticals per hour, for every additional hour, 3 ticals; carriage, with one horse, 2 ticals per hour, for every additional hour, 1 tical; rikisha (mostly pulled by Chinese), for a short ride, 10 satangs.

Hotels, Restaurants, and Clubs:—*Hotels.* Oriental Hotel (Oriental Avenue; Pl. E 7), a two-storied building, on the bank of the Menam, with a fine outlook (servants, all Chinese who, however, understand English); *tariff* (American plan), 12 ticals per diem. The hotel provides cold water baths, but has no equipment for hot baths; Europe Hotel (Bangrak), Bristol Hotel (New Road), etc.

Restaurants: Dining Hall, Oriental Hotel; Trocadero (kept by an Italian in Suriwongse Road; Pl. E 7).

General Description of Bangkok. The city of Bangkok (in N. lat. 13° 44′ and E. long. 100° 3′) lies on the River Menam, 25 m. above its mouth, or about 15 m. as the crow flies,—the more important as well as by far the larger part of the city occupying lands adjacent to the left bank. The most beautiful and more important business quarters, as also nearly all the important buildings, are found to the E. of the river. The city extends on the N.E. as far as Samsen, and on the S.E. as far as Sanon Tok,—both suburban villages. It has a population of 628,700, one-third of the number being Chinese. The name Bangkok means a 'town of olives.' A handsome road, called the New Road (Charun Krung), extends for 5 m. along the left bank, from the Royal Palace to the S. extremity of the city. After landing at Borneo (Pl. E 8), 10 minutes' automobile drive to the N. along New Road takes one to the Oriental Hotel (Oriental Avenue, Pl. E 7), in the neighbourhood of which are the Chartered Bank, French Legation, Assumption College, Banque de l' Indo-Chine, etc. From this part of New Road several well-known streets branch off to the N.E., such as, Suriwongse Road, Si Lom Road (Wind Mill Road), and Saton Road. These

streets contain foreign legations and consulates, various clubs, schools, churches, hospitals, and houses of European residents. A further automobile drive of 15 minutes to the N. takes one to the Royal Palace. To the N.E. of the palace is found the Premane Ground, a large park, surrounded by rows of beautiful tamarind-trees. Here various public functions and well-known festivals are held, as well as military drills and public games. When the annual football contests take place between the Siamese and European teams, the king honours the occasion by his presence. Among the beautiful sights of the city may be mentioned the white battle-mented walls and gateways of the palace, the Foreign Office and Finance Department, the painted towers of Wat Pra Keo, and the Saranrom Palace (attached to which is the Saranrom Garden). Their beauties are apparently enhanced on account of the sharp contrast they present against the surrounding tropical vegetation.

To the N.E. of the Premane Ground is the Queen Dowager's Palace, now in the course of construction, which may be reached by a five minutes' automobile drive over a very beautiful modern road, known as Racha Damnern Road (or the King's Walk). The road is shaded by rows of tamarind-trees, which are always kept in the best condition possible. These trees are frequented by owls, whose plaintive cries at night give the newcomer a never-to-be-forgotten impression. Near the palace is the Dusit Garden, an extensive park well laid out with rare plants, walks, ponds, rest-houses, and a race-course. There are boys here who sell coconuts, which supply a cooling and most agreeable drink. In the environs of Bangkok excellent roads run in all directions through delightful country, affording a beautiful automobile drive.

Sights of Interest. ***The Royal Palace*** (Pl. B, C 4, 5) is thrown open to the public on the 1st day of the Siamese year. On that occasion the sacred white elephant, which is kept in the palace, forms the greatest attraction for the visitors. In the Premane Ground to the N. of the palace various public fêtes and games are often celebrated, as already stated, of which the kite-flying contest (in April) is worth seeing. The Royal Museum in Wang Nah, which is in front of the palace, consists of two buildings,—the one to the left containing many specimens in natural history and archæology, collected from Japan, China, Java, etc., while the other to the right contains objects of interest relating to Siam. The latter was originally a part of the royal palace. At the entrance to the museum visitors are requested to write their names in a book.

Temples: There are over 390 Buddhist temples in Bangkok, and it is estimated that on the many temples which are found within a radius of half a mile from the royal palace, there must have been spent over 10,000,000 ticals. These temples are worth a careful inspection, as they give a fair idea of the arts and civilization of Siam.

Wat Sa Ket (near Panfalilat Bridge of the Racha Damnern Road, Pl. D 4) is a tall, pointed tower, which stands on a small hill

called Diamond Hill. The tower is 250 ft. high and may be ascended to the top. As Wat Sa Ket is located in the central part of the city, its top commands a very wide prospect of the entire city and surrounding country. The numerous temples, whose sharp pointed towers and tiled roofs glitter under the tropical sun, are a most

DISTANT VIEW OF WAT SA KET, BANGKOK.

beautiful sight and will convey better than anything else an idea of Siam as a Buddhist country. Indeed the 'Land of Yellow Robes,' by which the country is known to foreigners, is no misnomer. One can realize also what an important part the rivers and canals play in the life of the Siamese, as one views their silvery courses running in every direction throughout the city and surrounding country.

Wat Po or the Temple of the Sleeping Idol (near the Royal Palace, Pl. C 5), so called by Europeans from a huge, recumbent image of the Buddha found in the temple. The image is made of bricks, thickly overlaid with gold, and is 160 ft. long, (each foot measuring 16 ft. in length). The soles of the feet are richly adorned with inlaid pearls, showing figures of fruits and flowers, in illustration of the story that wherever the Buddha set his feet there sprang forth trees bearing flowers and fruits. The arm at the elbow is 6 ft. in diameter. It is said that the temple cost altogether more than 1,000,000 ticals. This temple holds, besides this huge image of the Buddha, nearly 1,000 other images, mostly life-size. The temple building is 200 ft. in length, and its roofs are constructed in three layers, all supported by round pillars. The temple premises are surrounded by high walls, inside which, besides the main temple, there are several smaller temples and towers and the residences of priests.

In one of these small temples is a statue of the Buddha in a sitting posture, executed in brass and about 50 ft. high, placed on an elevated stand which is also of brass and ornamented. In front of the altar stand flower vases, rice-bowls, etc., which are of brass,

THE TEMPLE 'WAT CHANG,' BANGKOK.

nickel, and bronze. Among the offerings are generally found flowers and fruits. On each side of the image is the figure of a priest, in a praying posture. The whole group is of most excellent workmanship.

Wat Chang (Pl. B 5) is on the W. bank of the Menam nearly opposite to Wat Po. The temple, which is in the shape of a huge bell, is 250 ft. high; it is built of bricks and plastered on the outside. The premises cover 15 to 20 acres, in which are several gardens, lakes full of fish, houses for priests, innumerable stone images, and several caves of stone or brick.

Wat Phra Keo, or the Temple of the Emerald Buddha (Pl. C 4), is in the Royal Palace. Here may be seen mural paintings, which in point of art are superior to any others to be met with in Bangkok. The ground floor of the temple is paved with bronze plates, which are always kept well polished. The altar, 50 ft. high, contains many images of human and animal forms, some of them of a most singular shape. The 'Emerald' image of Buddha stands in a niche at the head of the altar. The image is 1 ft. by 8 ins., its hair and robe are of pure gold. The image looks like a mozaic made of various precious stones. It is said that diamonds and other gems are set in the plaited gold. The temple, which is

a royal chapel, is frequently visited by the king. It is open to the public on the New Year's Day. At other times a special permit of admission may be obtained through a foreign legation.

Wat Benchamabopit (near Dusit Park, Pl. E 3) is the temple which was built by the late king as the name indicates (literally, 'Temple built by the Fifth King'). The temple is largely built of marble and gorgeously decorated, and the sides of the main hall are lined by a large number of Buddhist images. The chief image of this temple is said to have been made on the model of one in Pitsanuloke. The premises are extensive and contain several treasure houses, in one of which are exhibited various personal effects which belonged to the late king during his period of monastic discipline. In one house are found mural paintings depicting scenes connected with the chief events in the late king's life.

Wat Sampeng (in Sampeng Road, Pl. D 6) is well known on account of a pond containing alligators.

The Chinese residents of Bangkok have temples of their own, but they are mere private affairs and bear no comparison in point of size or of decoration with the Siamese temples.

Principal Establishments:—***Legations and Consulates:*** British Leg. (New Road, Pl. E 7); French Leg. (Custom House Lane, E 7); American Leg. and Consulate-General (New Road, Pl. E 7), Russian Leg. and Consulate-General (Suriwongse Road, Pl. G 7); Italian Leg. (Windmill Road,); Japanese Leg. (Suriwongse Road, Pl. G 7); Portuguese Leg. (Sapratum Road); German Leg. and Consulate-General (Surisak Road, Pl. F 8), Austro-Hungarian Leg. (Si Phya Road), Danish Consulate-General (Klong Poh Yom Road); Norwegian Consulate-General (Bush Lane, Pl. E 8); Swedish Consulate General (Lan Luang Road, Pl. D 9); Turkish Interests (looked after by the German Leg.).

Government Offices: Ministry for Foreign Affairs (in the Royal Palace, Pl. B 4); Ministry of the Interior (in the Royal Palace, Pl. C 4); Ministry of Finance (in the Royal Palace, Pl. B 4); Ministry of Lands and Agriculture (near Wat Po, Pl. C 5); Ministry of Justice (beside the Premane Ground, Pl. C 4); Ministry of War (opposite the Royal Palace, Pl. C 4); Ministry of Marine (opposite Bank of the Royal Palace, Pl. B 4); Ministry of Local Government (near Wat Rachabopit, Pl. C 4); The Harbour Department (above the Fort, Pl. E 6); Ministry of Public Instruction (near Wat Liep, Pl. D 5); Ministry of Communications; Royal Irrigation Department (near Wat Liep, Pl. C 5).

Foreign Missions: Roman Catholic Church (Oriental Avenue); Holy Rosary Church (opposite Poh Klong Sari); American Presbyterian Church Mission (Klong Poh Yom Road); Christ Church, Bangkok (Klong Poh Yom Road).

Schools: Royal Pages' College (Sanhhie Wye Road); Royal Civil Service College (Srapatoon Road); Royal Medical College (Wang Lang); Assumption College (Oriental Avenue); Royal Naval

Academy (Wat Chang); Cadet School (behind Saranrome Palace); War School (Rajadamnern Klong Road); Arts & Crafts School (Wat Liep); King's College (Bangkwang), Bangkok Christian College (Pramnen Road).

Clubs: Royal Bangkok Sports Club (Sanam Ma Road); Bangkok United Club (Hongkong Bank Lane, Pl. E 6, 7); Bangkok British Club (Suriwongse Road); Wild Tigar Corps Club (Suan Dusit, Pl. E 3); German Club (Suriwongse Road, Pl. F 7); Tennis Club (Suriwongse Road, Pl. F 7), etc.

Libraries: Vajirayarn Library (Royal Palace); Bangkok Library Association (Suriwongse Road). ***Newspapers:*** English—Siam Daily Mail (Si-Praya Road, Pl. F 7); Siam Observer (Oriental Avenue, Pl. E 7); Bangkok Times (Hongkong and Shanghai Bank Lane, Pl. E 7); Siamese—Nangsu Phim Thai (Plapachai Road); Sino-Siamese Daily News (Hongkong and Shanghai Bank Lane). ***Hospitals:*** Chulalongkorn Memorial Hospital (Hualumpong Nok Road); Bangkok Nursing Home (Pl. G 7); St. Louis' Hospital (Klong Poh Yome, Pl. F 8); Hospital for Infectious Diseases (Local Sanitary Department,—Kong Sarn). ***Book Stores and Stationers:*** Badman & Co. (Rajadamnern Road); Kiam Hoa Heng & Co. (near Holy Rosary Church); Oriental Store (Oriental Avenue, Pl. E 7); Whiteaway, Laidlaw & Co., Stationers (corner Si-Praya Road). ***Photographic Studios:*** Y. Asow & Co. (Ban mo Road); K. Isonaga (New Road); R. Lenz & Co (Titang Road); Prom Photo Studio (New Road); Mikasa Pho. Studio (New Road). ***Cinematographs:*** Phathanakoon Cinematograph (New Road); Phathanalai Cinematograph (New Road); Royal Japanese Cinematograph (Wat Tuk); Singapore Cinematograph (Samyeh); Java Cinematograph (New Road); Predalia Hall (Prang Dora). ***Steamship Companies and their Agents:*** Arracan Co., Ltd. (Chartered Bank Lane); Bombay Burmah Trading Corporation Ltd., agent for British India Steam Navigation Company, (Klong Poh Yom Road); Borneo & Co. Ltd. (Ban Tawai); East Asiatic Co., Ltd. (Oriental Avenue); E. C. Monod and Fils (Bush Lane); Diethelm & Co., Ltd. (Rajawongse Road); Siam Forest Co. (Hongkong & Shanghai Bank Lane); A. Markwald & Co., Ltd. (Ban mai). ***Saw Mills*** (all situated on the banks of the Menam): Long Heng Lee, Guang Tit Lee, Banseng Chang, Lee Tit Guang, Kwang Heng Seng.

Route XXI (B). Trip into the Interior.

Siam has a long history as a Buddhist country. It was known to the Chinese as Tien-chu and to the Japanese as Ten-jiku, the Chinese characters used to designate the name being the same in both cases,—the name practically meant to those peoples the 'native land of Buddhism.' The numerous temples which are found in the country and other remains of an older civilization, not to speak of the great wealth of flora and fauna, without doubt make Siam a very interesting place for archæologists, zoologists, and botanists to visit,

as well as for general tourists. But unfortunately the interior of Siam is almost inaccessible to ordinary tourists, except along the railway lines or steamer routes, on account of the practical non-existence of roads and hotels. Even in places which can be reached either by railway or steamer, there are no hotels (Bangkok, of course excepted). Usually it is possible to secure a mere shelter at railway stations, and tourists are advised to take with them their bedding—mosquito nets, blankets (for the nights are often cool), etc.—also food and other necessities. Practically the only place of importance easily accessible to tourists is Ayuthia, which was the seat of government and centre of civilization before Bangkok was founded. At Ayuthia, they may be able to see the elephant hunt, if fortune favours them (see P. 261). Those intending to make a trip to the interior, and desirous of securing a place of shelter at certain railways stations, would do well to make application beforehand, through the legation or the consulate,—mentioning the particular stations and the date of arrival at each,—to the Communications Department at Bangkok, so that the latter may send word to the railway stations mentioned to have everything ready to receive them on the dates named.

I. Northern Regions.

Railway: Bangkok to Ban Phaji (90.4 km.), daily, 2 mail trains and 2 mixed trains; to Gengkoi (125.1 km.), 2 mail trains; to Korat (263.8 km.), only 1 mail train, time of transit 8 hrs. 20 m.; *fare*, 1st cl. 14.30 ticals; 2nd cl., 8.60 ticals. Motor-launches: Between Bangkok and Ayuthia (71 km.), besides the railway, motor-launches are available.

Leaving Bangkok, the train passes through country containing endless paddy fields, variegated with bamboo forests here and there, with tall fan-palms towering high above them. Farm-houses in clusters, large and small, are seen to the right and left, and here and there buffaloes slowly making their way through mud and water in search of grass. The water-edges are thickly overgrown with cyprus iria, spider-wort, and other kinds of grass, while at railway stations there have been planted India rubber trees, tamarinds, Indian lilacs, and, in many places, bright cockscombs. Canals run in all directions, and in them bloom white and red lotus flowers.

Bang-pa-in (58.1 km. from Bangkok, in 1 hr. 40 min.; *fare*, 1st cl., 2.50 ticals; 2nd cl., 1.50 ticals. This is a city on an island, as indeed its very name signifies; it is, moreover, the seat of a royal summer palace. The palace is new, built in European style and surrounded by beautiful gardens. In the Japanese and Chinese pavilions are contained many objects of art from those two countries. In a lake stands a pavilion in the Siamese style. The palace is 20 minutes' walk from the station; no carriage available.

Ayuthia or Krung Kao (71 km. from Bangkok, in about 2 hrs. by railway; *fare*, 2.50 ticals; 1.50 ticals).

Steam-launches may be hired for 25–45 ticals per day; up-trip, 7–9 hrs., down-trip 5–6 hrs.: the Siam Steam Packet Co. maintains a daily passenger service.

THE MARKET OF AYUTHIA.

Railway Station (on the opposite bank from the city). In the station are sold certain eatables, feather fans, etc. On arrival at the station, travellers are carried by boats, as in Venice, to their several destinations in the city. Between the station and the mooring place for the boats is a covered pathway, on both sides of which there are stalls selling eatables. The boats are narrow and long, accommodating 4 or 5 passengers, and each is manned by one boatman who dexterously plies an oar. *Fare*, about 2 ticals per ½ day. Both sides of the river are lined by floating houses, and on the waters may be seen many small boats, which run up and down stream rowed by women, who ply the oar under the shadow of a paper parasol.

Ayuthia was the capital of Siam and the seat of its old civilization between 1350 and 1760, and to-day it possesses a population of some 50,000. Yet owing to the great devastations wrought by Burmese invaders at the close of the period above mentioned, and the founding of Bangkok as the new capital of Siam, a large part of the Old City is still left in ruins. The remains of the castle and of many temples are sad reminders of the city's former glory. The city, with its deserted quarters, occupies an entire island formed by the Menam and its tributary and has a circumference of 9 km. Like Venice, the city of Ayuthia is intersected in all directions by canals, which form the public streets, and many houses are built on floating rafts on the waters. In the N. stands the castle, in which is the Museum, containing many specimens of the old fine arts. The most thickly peopled parts are found in the W. and S.W., where there are regularly laid out streets. In the S. W., canals are particularly numerous and there are many temples. The market place, where nearly all the buying and selling of commodities take place,

is on the river, and at certain hours of the day it presents a busy scene,—the boats of merchants (buyers or sellers) practically taking up the entire river surface.

Wat Xajavatauaram is a temple, about ½ hour's walk to the W. of the landing place in the city. The temple is well known on account of its gilt image of the Buddha, largely resorted to by women worshippers. The Buddha is in a sitting attitude, and devotees bring gold foil and paste it on the knees of the image. Hence the always brilliant yellow of the image, particularly of its lower limbs.

Wat Phanajaxing (Grand Buddha), Wat Putthaisanam, and one or two other temples may be visited, if there is time. There are many other temples, besides the remains and sites of old temples, but these are hardly worth a visit.

Elephant Hunt. Ascending the river for about one hour by boat from the landing place, the usual place of the famous elephant hunt is reached. The royal elephant hunt is a grand affair and is got up only on rare occasions, owing to the great expense it entails and the many inconveniences it causes to the farming population of the region. The latest instance was in 1905 on the occasion of Prince Valdemar's visit to Siam, and for a description of it we quote from 'A Handbook of Practical, Commercial, and Political Information' by W. A. Graham, M.R.A.S.

"The King arrives, escorting his royal guest and followed by Court officials and members of the royal family, and passes, smiling, through the gaily-dressed crowd drawn respectfully aside, to his seat in the pavilion. Meanwhile, and for many days before, the elephants have been slowly driven up from their distant feeding-grounds and are now out on the plain before the keddah, shepherded by attendants mounted on large and well-trained tuskers. At a word from His Majesty, orders are passed and the herd moves forward and enters the V-shaped palisade, which converges towards the entrance of the keddah, a narrow opening through which only one animal can pass at a time. Driven on from behind, into the ever diminishing space, the huge beasts, of which there may be some 150 present, now begin to crush and push against each other, and a deafening uproar ensues, continuing unabated for hours, until, with titanic heavings and strugglings, the whole herd has passed through the narrow entrance and has arrived, furious from the spear-pricks of attendants and hustlings of the tame animals and trembling with outraged dignity, in the interior of the keddah. On the second day the catchers enter the enclosure, seated upon tuskers of proven reliability, and, having selected from the herd the dozen or so of young males which it is desired to capture, proceed to the difficult task of passing a noose of strong rattan cable over the hind feet of these. This is done by driving and following the herd round and round the interior of the keddah with the noose held ever ready on the end of a long pole, forcing the docile tusker close up to the selected animal and, while the latter lifts his feet in walking, slipping the loop over one of them and as far up the leg as possible. The tusker then turns tail and retreats, paying out slack cable, the end of which is seized by assistants who dash into the arena and make it fast to one of the palisades. Meanwhile, the noosed animal walks round with the herd until, the cable running taut, he is brought up standing, and, with a roar of rage and fear, begins a long and fruitless struggle against the fate which has overtaken him. The captives having been made, a small exit is opened in the keddah wall opposite to the entrance, and the remainder of the herd is driven out into the open, where it is received by the shepherd tuskers. The prisoners are then taken in tow, not without furious resistance and desperate attacks upon their captors, and are hustled and shouldered,

amid derisive cheers from the thousands of spectators massed upon the walls, out of the enclosure and away to the stable, the scene of their future education.

The third day of the catching is entirely devoted to frivolities. The herd, now thoroughly exasperated by unmannerly hustling and by constant proddings with spears at the hands of the riders of the shepherd males, and containing more than one female rendered desperate by the loss of her offspring, is marshalled in the open ground outside the keddah and separated from the crowd only by the tame tuskers. Anon a young man, gaily dressed, carrying an umbrella and smoking a cigar, slips between the docile guardians and strolls, an object of admiration to the whole vast assembly, across the open towards the angry herd. The elephants shrink back, all heads turned towards the intruder and all ears outspread. Suddenly with a bellow an old cow rushes out, tail and trunk erect and ears spread wide, and makes for the pedestrian. He, intrepid fellow, waits till she is towering close above him, then, with a flirt of his parasol in her face, darts back between the tuskers who receive the baffled female on their foreheads and drive her back to the herd. This performance is repeated again and again with such variations as the human performers, stimulated by the presence of royalty and by a thirst for glory, can devise. Sooner or later one of the elephants eludes the tame tuskers and appears suddenly, furious and trumpeting, amongst the crowd. In the general stampede which ensues, the great beast appears bewildered and, unable to select a victim for its wrath, usually stands stock still, until all have reached points of safety. Sometimes, however, excessive foolhardiness or a false step and a fall, fixes the attention of the elephant upon one individual, who is overtaken and with a sweep of the trunk or a side kick is knocked out of existence in a trice. Unless one or more of such gruesome incidents occur, the day's enjoyment in the popular estimation is incomplete. With the close of the third day, the crowds disperse by railway and river, and the morrow's dawn finds the keddah deserted and the herd of wild elephants already far on its way across the plain back to the feeding grounds."

Leaving Ayuthia, the train soon comes to Gengkoi, where the land begins to become hilly. Bamboo forests abound. Indian lilacs with their purple blossoms flourish. Here and there in the midst of extensive forests, patches of cultivated ground may be seen. At *Hinlap* an altitude of 700 ft. is reached. Indian lilacs and red sandalwoods abound. At *Muok Lek*, bananas may be purchased. The premises of the station are planted with India rubber trees and tall palms, which keep the place shady. Outside the station is a small, clear stream. In these parts of the railway, the locomotives are fed with wood instead of coal, as may be noted from the immense piles of firewood kept ready at the station. At *Pak Djong*, good watermelons may be purchased. In this region bamboos and bead-trees are abundant. At *Namkhoon*, an altitude of 500 ft. is reached. The lands are flat and marshy. At *Sikiu*, water-melons, water-nuts, and venison may be obtained. Though situated in a mountainous region, in the neighbourhood of the station are found many well-cultivated rice lands.

Korat (263.8 km. from Bangkok, in 8 hrs. 20 min.; *fare*: 1st cl., 14.30 ticals; 2nd cl., 8.60 ticals), the capital of the provincial division of Nakawn Racha Sema, or 'the frontier country,' lies on the Nam-mun, an important tributary of the Mekong. Before reaching here, we have crossed the watershed dividing the valley of the Menam from that of the Mekong. Korat is at an altitude of 1,000 ft. and, being the only city in the N.E. plateau of Siam, forms a very important centre of trade and communication. The city is

surrounded by a wall and is further protected by a deep moat, 200 ft. wide. The products of the place are rice, sugar, silk, animal hides, etc. Population, 7,000 mixed Cambodians and Siamese. For the present, Korat forms the terminal of the E. line of the Siamese Railway, there being yet several hundred kilometres to the boundary of French Indo-China. In Korat and environs are several old temples, mostly in ruins, of which Wat Nomwan is worth a visit. The latter is 2 hours' walk from Korat.

Phrabat, a mountain some miles to the N.E. of Ayuthia (reached by the light railway from Tarua, above Ayuthia), is famous on account of the supposed footprint of Buddha (similar to that on Adam's Peak, Ceylon), over which a splendid temple stands, built by the king's order shortly after the discovery of the footprint (1602). The temple is gilt on the outside and has over the centre a dome, ending in a pyramid 120 ft. high. Leading to the gates is a broad staircase of marble, inlaid with gold and mother-of-pearl. The chief Buddha-image worshipped in the temple is of silver, while the footprint, which is in the centre of the building, is partially concealed by a silver grating, which is generally covered with offerings. The supposed footprint is said to be 5 ft. long and 1½ ft. broad. Devotees gather from all directions to worship the sacred foot-mark, and the place has been fitly called the Lourdes of the East.

Pitsanuloke (288.8 km. from Bangkok, in 11 hrs.) is an old city, lying on the Menam. The N. extension line reaching here starts off from Ban Phanji on the Bangkok-Korat Line. At the station of Pitsanuloke certain refreshments may be obtained. In the city are many Chinese, in whose hands are most of its business. At one end of the city are the barracks of the army stationed here. Of the temples, **Wat Ramand** (15 min. walk from the station), partly in ruins, is worth a visit. Another temple, **Wat Chinnaraj**, is one of the three temples in Siam celebrated for architecture, the other two being Wat Phra Prang of Sawankalok and Wat Sri Sawai of Sukhothoi.

Leaving Pitsanuloke and going N., Ban Dora is reached. The town lies in a region where teak-trees begin to flourish. A branch line starts off from Ban Dora for Sawonkaloke (28 km.).

Chiengmai (or Kiangmai), a city with 20,000 inhabitants, is a very important centre of trade and communication in N. Siam. It is the centre of teak trade, in which many Burmese and several Chinese and European firms are engaged. It is not yet on the line of railway communication, the latter reaching only as far as N. Lampang, S. of Chiengmai. The city carries on a considerable trade with Yunnan and Burmah. There is little doubt that when this city gets into railway communication, not only with Bangkok, but also with Yunnan-fu and Mandalay, as it is hoped will one day be the case, it will become a very prosperous and important place. The city is surrounded by a wall and contains many beautiful

temples. In the market, trade is mostly carried on by women. American Presbyterians who have been working here since 1867 have a large number of converts. They have also done much useful educational work.

In the neighbourhood of the city is a marsh, which becomes a large lake in the rainy season, but in the dry season it supplies good clay for making bricks. To the N. of the city is the site of the once famous town of Muang Timan, and to the W. the ruins of another town. Doi Sutep is a high mountain (above 1,500 metres), 8 m. N.W. of Chiengmai. About midway to the summit is a temple, which used at one time to attract pilgrims once a year.

II. Coastal Regions.

Petcha Bouri (151 km. from Bangkok-Noi Station in Bangkok, reached in about 5 hours) is on the line of railway from Bangkok to Koh Lak, Malay Peninsula. This town is celebrated on account of a large and splendid detached palace of the king, and for the comparative clearness at this place of the waters of the river.

Koh-Si-Chang is a well-protected, natural harbour, deep enough for large ships, which is found on the E. side of an island of the same name, situated on the E. coast of the gulf of Bangkok. Here ships seek shelter from the S.W. monsoons which blow between April and October.

Siracha (reached in 7 hrs. by steamer from Bangkok) is a fishing village on the E. coast, and opposite to Koh-Si-Chang. The village is noted on account of a sea-bathing resort for European residents of Bangkok, as well as for a naval sanatorium. At this place there are the terminal of a short line of railway for conveying timber and a pier. Among the timber brought from the adjacent forests is a variety known as *mai-yang* from which is obtained a kind of oil, while the residue of the trunk is made into torches. The tree is sometimes six or seven feet in circumference, and the oil is obtained from it by first making a cavity in the trunk and burning it for a while, after which the oil drips down and collects in the hollow. The older the tree, the better is the quality of the oil obtained from it. This oil is used in caulking the seams of a junk. It is also used for making water buckets of bamboo baskets, by painting them inside with it, and thus rendering them water-tight.

Chantaboun is the only important town in the E. part of Lower Siam, as well as being one of the well-known ports of the country. It is situated on a river of the same name, some miles above the mouth of that river. The mattings produced here are mostly made by Annamese residents of the place, while the precious stones, which form another important product of the place, are obtained and polished by Burmese in the town.

Connaught Drive, Singapore.

PART IV. MALAY PENINSULA.

Chapter I. Preliminary Information.

I. Approach to Malay Peninsula. All tourists bound for the Malay Peninsula come first either to Singapore or to Penang. The former is the front entrance, which receives all passengers coming from the N., E., and S. directions, and the latter is the back door, open to those who come from the W. Besides these two, there are a few other ports in the Peninsula, such as Malacca and Port Swettenham, but these are merely local ones. Singapore, being situated at the junction point of the highways of the Indian Ocean, China Sea, and Java Sea, is not only a port of call of all the steamers passing between Europe and the Orient, but is also a great commercial centre for Siam, French Indo-China, Dutch East Indies, and Australia. Penang, though not so busy and important a place as Singapore, is conveniently situated as a short cut path for those who come from various parts of India and through the western coast of Sumatra. Since all the steamers coming to the Orient via the Suez Canal stop at Singapore (from half a day to one day and a half), every passenger has a chance to see the place. Since even those who come via Siberia or the United States of America usually go back via the Suez Canal, taking a steamer either from Japan or Shanghai or Hongkong, they have the same chance to visit Singapore. If one's steamer is to call at Penang,* one may avail oneself of the time during which the steamer goes from Singapore to Penang and stays there, since one can overtake it in a short time by taking a train of the Federated Malay States Railway.

* The mail service steamer of the P. & O. S. N. Co. stops at Singapore and Penang on both voyages, spending about two days from the time it arrives at Singapore till the time it reaches Penang. Since it stops some hours at the latter port, the available time for one's purpose will be lengthened accordingly.

The steamers of the European Line of the Nippon Yusen Kaisha and the steamers of the Bombay Line of the Ōsaka Shōsen Kaisha stop, on their outward voyage only at Singapore, Malacca, (those of the Ōsaka Shōsen Kaisha at Port Swettenham instead of Malacca), and Penang, spending four days from the time they arrive at Singapore to the time they leave Penang. Setting apart one day for the train trip, three full days will be available for the purpose of sight-seeing in the Peninsula. Tickets for the railway trip between Singapore, Malacca, and Penang will be furnished free of charge to first class passengers only by the Nippon Yusen Kaisha.

Passengers who wish to prolong their visit to the Peninsula may do so by leaving their steamer at Singapore and taking the next steamer of the same company at Penang. In this way, at least fifteen days will be available for their purpose. If they want to cut it shorter, they may do so by taking a steamer of some other line. Care must be taken to arrange the steamer connection at Singapore, which is the best of the ports at which to do so.

Those who travel on board the east-bound steamers of the P. & O. S. N. Co. usually start their Peninsular trips from Penang. The steamers of the Netherland Steam Navigation Co. and the 'Rotterdam Lloyd' that pass through the strait of Malacca stop both ways at Sabang, a port of We Island at the N. end of Sumatra, and Singapore. Between Sabang and Penang there are several regular services of the Royal Packet Navigation Co. (see P. xxiv), requiring one day for the through voyage and two days if a stop is made at Belawan Deli. From Belawan Deli to Sabang there run several steamers, which can be connected with the Dutch Mail steamers at Sabang, and there is also a steamship service twice a week from Belawan Deli to Penang, so that passengers from the W. on board the Dutch Mail steamer, 'Rotterdam Lloyd,' will not find it inconvenient to leave it at Sabang and take one of these steamers of the Royal Packet Co. to Penang, making this the starting-point of their trip down to Singapore.

As to the means of communication from this Peninsula to various points of India, China, and Australia, they will be found described separately in the sea routes in the general introduction (see P. ooo).

II. Passports and Customs. Those who intend to visit only such ports of the Peninsula as Singapore, Penang, and Malacca, do not require a passport, but a passport will be found safe and convenient for those who intend to penetrate into the interior regions. The strictness of the examination of the passport varies according to different places and circumstances; but travellers will find it best to provide themselves with passports issued by their own government, identified by the photograph of the bearer, and certified by the British Consul of the port of departure.

All the ports of the Straits Settlements are free trade ports, with no import duty levied except on opium and liquor, which, if passengers carry in any excessive amount, must be paid for. The leniency of the custom-house examination is certainly one of the pleasant phases of travel in the Peninsula. Except in the time of war and on other rare occasions, when a somewhat particular examination will be temporarily enforced in order to prevent smuggling, passengers have little trouble in this respect. But they should be on their guard against the extortion of bogus officials, who frequently appear on the wharf and, pretending to be officers, demand the opening of their luggage.

III. Climate and Time of Visit, etc. ***Climate.*** Most of the Peninsular colonies and the Federated Malay States are situated between 1° and 6° N. lat. Singapore, at the extreme S. end of the Peninsula, is only 80 m. distant from the equator. Judging from its position, one would naturally imagine it to be a hot place, but in reality the climate of Singapore is one of the mildest. Its average maximum temperature is 82.3° Fahr., the average minimum 79.5°, giving a mean of 81.2°. The variation of its average temperature between any two months does not exceed 2°. In short, its temperature throughout the year is somewhere near 80°, and

even in May, which is considered to be the hottest month, it rarely exceeds 85°. The temperature of the hottest day in the year is 91° or 92° and that of the coolest about 71°. Its rainy season begins in October and continues for six months. During this season it will rain from ten to twenty days out of a month. Generally speaking, one-half of the year will be bright warm days, and the other half rainy. The total annual rainfall is about ninety inches. It is a large amount, but the rain of Singapore does not continue long at a time. It stops after one or two or at the most three hours and is always in the nature of a shower. It is this rain that makes the climate of Singapore so mild, and it well deserves the title of 'balmy rain.' Related to this rain is another well-marked atmospheric phenomenon, namely the monsoon, which blows in a N.E. direction during the rainy season between October and March and then turns to a S.E. to S.W. direction, in which latter direction it remains until September.

The climate of Penang, Malacca, and other places along the shore of the Peninsula is more or less similar to that of Singapore. Being similarly affected by the sea, it is very much milder than most of the other countries of the same latitude. In such inland places as Kedah, Kelantan, and Pahang it is hotter and shows certain of the effects of a continental climate, but even there travellers will often feel cool refreshing breezes, especially in the mountainous regions. In short, the climate of the Malay Peninsula is mild and warm throughout the year. Here are no frosty autumn and freezing winter. Trees remain green and birds continue to sing throughout the year.

Time of Visit. The climate being as described above, any season will be almost as good as another to visit this Peninsula. Tourists should therefore consider the climate of their own country in planning their trip. If they don't like winter, they should come during October and March, but if they dislike the rainy season, they should change accordingly. The chief thing to remember is that May is the hottest month and January the rainiest.

Travelling Outfit. Summer clothes will do for any time of year, but several thin flannel shirts and night gowns will be found advisable. For going out in the sun, any straw or panama hat will serve the purpose, but a colonial helmet will be found a better protection against the severe rays of the sun. Such headgear can easily be purchased in Hongkong, or in Singapore or any other cities in the Peninsula. Malaria and beriberi are prevalent among the natives, but few Europeans are attacked by them. In places which the latter frequent, the sanitary arrangements are fairly well carried out, so that European travellers have little to fear from these diseases. However, it will be wise to take a small dose of quinine daily as a precaution against malaria.

IV. Itinerary Plan. For ordinary tourists, the plan of a tour of the Peninsula depends upon the length of the time they can

spare. According to the different ways of steamship connection already mentioned, (see P. 265), the time may be extended from two or three days to one or two weeks. For reference, a few different plans are suggested below:

Plan No. 1.—Two days' tour from Singapore to Penang, in connection with the home-bound steamer of the P. & O. S. N. Co.

1st day: If one's steamer arrives at Singapore in the morning, spend the whole afternoon in seeing the city. In the evening leave for Penang. The train has both dining and sleeping accommodation.

2nd day: The train arrives at Kuala Lumpur early in the morning. Here one changes for Penang. There is about an hour to wait, during which one can take a bath and make one's toilet. Arrive at Penang in the evening. If one's steamer is to leave Penang the following morning, one will stop there overnight and see the city at leisure.

Note: From the time the steamer arrives at Singapore to the time it leaves Penang, there ought to be at least twenty-four hours' interval, during which the above-mentioned plan of tour can be followed out. But, since the length of the interval is not absolutely certain, each passenger should inquire about it before leaving the steamer.

Plan No. 2.—Four days' tour from Singapore to Penang, in connection with the European Line of the Nippon Yusen Kaisha.

1st day: Arrive at Singapore in the morning. Spend the day in sight-seeing in the city, and in the evening leave for Malacca. (The train is provided with dining and sleeping cars.)

2nd day: Arrive at Malacca early in the morning. See the city and leave for Kuala Lumpur in the afternoon. The train leaving about two o'clock will be the most convenient one. Arrive at Kuala Lumpur in the evening. Stop there overnight.

3rd day: Take the fast train which leaves Kuala Lumpur about 8 a.m. At about 3 p.m. it arrives at Taiping, via Tanjong Malim, Tapah Road, Ipoh, and a few other places. Stop there overnight.

4th day: Leave Taiping about 9 a.m. by local express, which arrives at Penang at noon. Devote the whole afternoon and the evening to seeing the city. Stop there overnight rejoining the steamer the following morning.

Note: The same plan of tour can be made in connection with the Bombay Line of the Osaka Shōsen Kaisha, which follows approximately the same schedule between arrival at Singapore and departure from Penang. But passengers should inquire about the exact time of the departure of the steamer before leaving it.

Plan No. 3.—One week's tour from Singapore to Penang or vice versa.

1st day: Arrive at Singapore, probably in the morning. See the city and Johore. Stop there overnight.

2nd day: The following morning leave for Malacca, via Gemas and Tampin. Arrive at Malacca in the evening. Stop there overnight.

3rd day: See Malacca in the morning. In the afternoon leave for Kuala Lumpur, via Seremban. Arrive at Kuala Lumpur in the evening. Stop there overnight.

4th day: Spend the whole day in seeing Kuala Lumpur and its environs, especially Batu Caves and Port Swettenham.

5th day: Leave Kuala Lumpur in the morning for Ipoh in the evening. Stop there overnight.

6th day: In the morning see the city and open-cast tin mine. In the afternoon leave for Taiping. Arrive there in the evening. Stop overnight.

7th day: Leave Taiping in the morning by the fast local train for Penang, arriving at noon. Stop there overnight, returning to the steamer the following morning.

V. Hotels, Rest-houses, etc. *Hotels:* Singapore, Penang, and other British colonies have hotels run by English. In the Federated

Malay States, such places as Kuala Lumpur, Ipoh, and Taiping have fairly well-equipped hotels. In Kuala Lumpur is a station hotel, managed by the State Railway.

In all these hotels the tariff is nearly the same—from $6 to 8 per day for room and board is nearly the same—from $6 to 8 per day for bedroom and attendance only (European plan). Meals: Breakfast, $0.75, luncheon, $1 and dinner, $1.50. The tariff varies somewhat in different houses. For precise information, see the more detailed account under each particular place.

Rest-houses: At less busy places of the Peninsula where there are no hotels, there are rest-houses run by local governments. Though not large establishments, they are mostly neat-looking brick structures and well furnished. In fact, they are hotels on a smaller scale and are run as such. Besides meals they furnish rooms and all other travellers' needs. The tariff of meals and rooms is posted up within the house. Though there is a little variation in different localities, the charges are generally moderate, being $1.50 for lodging and $1.50 for board. In about ten exceptional places, $2 to 2.50 is charged for board. All bedding is furnished by the rest-houses, but those who are particular may take with them their own sheets, night gowns, mosquito nets, pillow cases, etc.

As to the beverages of the Peninsula, there are various kinds of spirits, bottled beer, soda water, and other good mineral waters; but wine is scarce and of poor quality. Above all, tourists must be careful not to drink water indiscriminately. All kinds of the above-mentioned beverages are moderately priced. Most of the keepers of these rest-houses cannot speak English. Tourists must, therefore, be accompanied by interpreters or servants who can understand both English and Malay, or they must know some simple Malay words and phrases. But if one is prepared to put up with a little inconvenience in the matter of language, one may venture to travel alone, without seriously jeopardizing the pleasure of one's trip, for most of the keepers of the rest-houses, though they do not speak English, can contrive by gestures or other means to make themselves intelligible and to understand one's orders.

VI. Currency, Banks, Weights and Measures. *Currency:*—The unit is the Straits dollar (=100 cent). Though in 1906 a bill was passed for the establishment of a gold standard unit, no gold coin was made, and the British sovereign is taken as the unit of legal currency, while the unit of actual currency is the silver Straits dollar. Sixty dollars are equal to seven pounds sterling; one dollar being equal to two shillings and four pence. The rates of exchange with foreign currencies are as follows:

1 pound = $8 57, 1 franc = 36 cents, 1 mark = 43 cents, 1 yen = 87 cents, 1 American dollar = $1.76, 1 guilder = 71 cents.

The rate of exchange varies from time to time, though the variation is very small.

Its silver coins are made in the denominations of $1, 50 cents, 10 cents, and 5 cents. There are also copper coins of 1 cent, ½

cent, and ¼ cent. Besides, the paper currency issued by the government in 1899, there are also the paper currencies issued by the Chartered Bank of India, Australia, & China, and the Hongkong & Shanghai Banking Corporation. They are issued in denominations of $ 1, 5, 10, 20, 50, 100, and 1,000. The silver coins of $ 1 and 50 cents are legal tender up to any amount, but the silver coins of 20, 10, and 5 cents may be accepted only to the limit of $ 2, and all the copper coins to $ 1.

Banks. The chief banks of the Peninsula are the branch offices of the Chartered Bank and the Hongkong & Shanghai Banking Corporation. Besides these two, most of the gerat banks of the world are represented here, such as the International Banking Corporation of New York, Nederlandsche Handel Maatschappij of Amsterdam, Mercantile Bank of India of London, Banque de l'Indo-Chine of Paris, Russo-Asiatic Bank, Bank of Taiwan, and Yokohama Specie Bank.

Weights and Measures.

Avoirdupois Weight.

16 drams=1 ounce.
16 ounces=1 pound.
112 pounds=1 hundredweight.
20 hundredweight=1 ton.

Avoirdupois Weight used among the Malays.

1 tahil=1⅓ ounces.
16 tahil=1 kati=1⅓ lb.
1,600 tahil=100 kati.
100 kati=1 picul=133⅓ lb.
40 picul=1 koyan=5,333⅓ lb.

Goldsmiths Weight.

12 saga=1 mayam=52 grains.
16 mayam=1 bongkal=832 grains.
12 bongkal=1 kati=9,984 grains.

Opium Weight.

10 tee=1 hoon.
10 hoon=1 chee.
10 chee=1 tahil.

Linear Measure.

12 inches=1 foot.
3 feet=1 yard.
5½ yards=1 pole or perch.
40 poles or perches=1 furlong.
8 furlongs=1 mile.

Superficial Measure.

144 square inches=1 square foot.
9 square feet=1 square yard.
30¼ square yards=1 square pole or perch.
40 square poles or perches=1 rood.
4 roods=1 acre.

Land Measure—Malay.

1 square jemba=144 square feet.
400 square jemba=1 square orlong=about 1⅓ acres.
1 lelong=2,400 square feet.
24 lelong=1 square orlong=1⅓ acres nearly.

Dry Measure.

2 gills=1 pau or ¼ chupak.
2 pau=1 pint or ½ chupak.
2 pints or 4 pau=1 quart or chupak.
4 quarts or chupak=1 gallon or gantang.
10 gantang=1 para.
800 gantang=1 koyan.
2 gallons=1 peck.
4 pecks=1 bushel.
8 bushels=1 quarter.

Liquid Measure.

2 gills=1 pau or ¼ chupak.
2 pau=1 pint or ½ chupak.
2 pints or 4 pau=1 quart or chupak.
4 quarts or chupak=1 gallon or gantang.
10 gantang=1 para.
800 gantang=1 koyan.
63 gallons=1 hogshead.
2 hogsheads=1 pipe.
2 pipes=1 tun.

VII. Public and Bank Holidays.

Jan. 1	New Year's Day.
,, ...	Thaipusum (Hindu Festival).
Feb.	Chinese New Year's Day and the following day.
Apr.	Good Friday and the following day.
,, ...	Easter Monday.
May	Whit-Monday.
June 3	The King's Birthday.
July 31	S. S. Government Holiday.
Aug.	First Monday in August.
,, ...	Hari Raya Puasa (Mohammedan Festival).
Nov. 13 & 15	S. S. Government Holiday.
Dec. 25 & 26	Christmas Day and the following day.

VIII. Language and Guides. The inhabitants of the Malay Peninsula consist of a conglomeration of various races,—yellow, white, black, brown, etc. Visitors will be surprised to see all sorts of faces and dresses mingling in the streets in a curious medley. The most important races represented are Europeans, Malays, Javanese, Chinese, and Hindoo. The productive work of the Peninsula is done mostly by Hindoos and Chinese. Hindoos are engaged in agriculture and forestry, and Chinese in agricultural and mining industries. The tin-mining industry depends almost entirely upon the labour of Chinese immigrants. The Malays and Javanese are lazy, and the Hindoos are slightly better. Except a few policemen recruited mostly from the Hindoos, the majority of these three races are employed as day labourers in the cleaning and repairing of streets. The Chinese are the strongest and most efficient workers of all. In cities they work as rikisha men or petty store-keepers. The language used by these labouring classes is Malay, and, though all officers and merchants of the upper middle class speak English, those who intend to do business in the Peninsula must have some knowledge of Malay. Especially, where the nature of the business requires the services of these labourers, the knowledge of Malay is an absolute necessity. But for ordinary tourists English will be sufficient for all practical purposes.

Some Hindoos in Singapore.

Chapter II. General Remarks on the Peninsula.

I. Geographical Sketch. The British Straits Settlements and all the Malay states under British protection are situated in the southern part of the Peninsula, between the E. long. of 100°-105° and the N. lat. of 1°-7°. The Peninsula projects from the borderland of Siam south-eastward into the sea like the neck of a goose. Singapore is at the extreme end of this projection, and a little more than half way down is Penang, which is one of the gateways of the Peninsula. The total area is about 51,360 sq. m. and the total population is about 2,675,000. The various divisions are as follows:

		Area.	Population.
Straits Settlements ...	Singapore ... ...sq. m.	217	330,042 (1913)
	Penang Is. and Prov. Wellesley	388	284,565 („)
	Dindings	265	
	Malacca	659	130,755 („)
	Total	1,529	745,362 („)
Federated Malay States	Perak	7,800	494,057 (1911)
	Selangor	3,156	294,035 („)
	Negri Sembilan	2,550	130,197 („)
	Pahang	14,000	118,708 („)
	Total	27,506	1,036,997 („)
Non-Federated Malay States	Johore	9,000	180,412 („)
	Trengganu	6,000	146,920 („)
	Kelantan	5,000	286,751 („)
	Kedah	3,150	245,986 („)
	Perlis	300	32,746 („)
	Total	23,450	892,815 („)

The Land.—The southern part of the Peninsula, about 120 miles northward from Singapore, is occupied by Johore, which is under British protection. This part is a low country with ridges of small hills running through the centre in a N. to S. direction. The land, therefore, naturally slopes towards both sides, and all the rivers, except the Johore, flow either westwards or eastwards.

Towards the N.W. of Johore lies British Malacca. From here northwards the land becomes hilly. High mountain ridges, rising from 4,000 to 7,000 ft. above the sea-level, run in a N. to S. direction along a line a little deflected from the centre towards the W. These ridges form the backbone of the Peninsula. On the western slope are the Federated Malay States,—Negri Sembilan, Selangor, and Perak in northward succession. On the eastern slope, opposite these states, is the large state of Pahang. On its northern border rises the highest mountain of the Peninsula, Mt. Tahan (7,183 ft.). Towards its N., bounded by the E. to W. ridges of this mountain, are the two British protectorates of Kelantan and Trengganu. Towards its W., bounded by another high mountain, Mt. Kerbau (7,160 ft.), is the state of Perak, and on the N.W. border of Perak is the British province of Wellesley. Opposite Wellesley across the water is Penang. Further N., along the coast are Kedak and Perlis, which are the northern boundary states of the Peninsula.

The most important rivers are the Pahang, the Perak, the

Kelantan, and the Trengganu. All these rivers are navigable and their water is used for irrigation purposes. The navigation of the Perak and the Pahang is effected by house-boats or motor launches, specially equipped for the convenience of tourists (see P. 279).

Inhabitants. As has already been mentioned, the inhabitants of the Peninsula consist of a conglomeration of various races. It is said that in Singapore twenty-six languages are used. But the majority of these inhabitants are Malays and Chinese. In the Straits Settlements and the four Federated Malay States, from 33% to 40% of the inhabitants are Malays and from 42% to 52% are Chinese. In other states Chinese are not so numerous. Taken as a whole, the total number of Malays in the Peninsula is 1,350,000, while that of Chinese is about 1,000,000. The next large element is furnished by the Hindoos, who number 240,000 in all—220,000 in the Straits Settlements and the four Federated Malay States. There are 31,000 Javanese in Johore and nearly 20,000 Siamese in the northern states, while the total number of Japanese is some 5,000 throughout the Peninsula. The number of Europeans and Americans is small, being about 11,000 in the Straits Settlements and about 400 in the British protectorates. Adding to these about the same number of Eurasians, the total number of western people represented in the Peninsula is 25,000 or less. Compared with that of Orientals, this number is negligibly small, but mere numbers do not give a true indication of their respective influences in the Peninsula. In fact, almost all the controlling interests of the Peninsula are in the hands of the western races.

II. History. Unlike India, Ceylon, Burma, Siam, Java, and the other surrounding countries, the Peninsula has no history and no civilization worth mentioning. It was simply a wilderness with luxuriant jungles here and there. Its W. seacoast, which is comparatively more fertile than the rest of the country, was originally inhabited by dark brown savages, called Negritos. The Peninsula was first discovered and settled by Malays, but it was the Chinese and Hindoos who opened up the wilderness and made it habitable. Moreover, most of the credit of the pioneer work must be given to the Chinese. Finally came the English, who organized it politically and to a large extent commercially, and have ever since assumed the controlling power of the Peninsula. Before Malays began to migrate into it in 1360 from Sumatra Island, there had been some occasional migrating activity, especially in the southern part, but it was Malay immigrants who first settled there in any considerable number and introduced into it some rudiments of civilization. In the northern part, especially in Kedah, Kelantan, Trengganu, and Selangor, there are some traces of Buddhistic missionary activity, which dates back even prior to the Malay immigration. During the 14th and 15th centuries all these provinces were invaded by Siamese and settled by them. But in such southern states as Perak, Johore, Malacca, and Pahang, Malays were undoubtedly the first to settle. In 1377 these Malay immigrants were driven out by Javanese, who

invaded the southern states and conquered the whole territory around Singapore. The defeated Malays moved northwards, and in 1405 they established themselves in Malacca, where they began to communicate with China. By that time the Portuguese were coming in, but the Malays seem to have thought that China was the greatest country with which they were concerned. The Malay Kingdom of Malacca had lasted for more than a century, until in 1509 it was first attacked by Admiral Diego Lopez de Sequira, a Portuguese, and then by Alfonso de Albuquerque, a Portuguese Viceroy in India, who acquired the controlling interest of the sea along the straits of Malacca and the W. coast of the Peninsula. In 1606 a Portuguese fleet bombarded Malacca, and in 1641 the Portuguese finally occupied it. The Malays, oppressed by the Portuguese turned to the Dutch, who, succeeding to the Portuguese, occupied the territory. The

MALAY CHILDREN.

administration of the Dutch did not differ much from that of the Portuguese, and it seems that they had considerable difficulty in checking the invasions of a savage race of the Malay Archipelago called Bugis. In 1826 the English came and defeated the Dutch. They occupied Malacca, Dindings, Singapore, and Penang. In the same year England signed a treaty with Siam, in which the border line of the two territories was clearly specified and trading concessions were secured. In 1867, the East India Company was abolished and replaced by the Crown Colony system. Perak, Selangor, and some other states were then in a state of disorder owing to maladministration. In 1874 England established a Resident and a Vice-Pesident in Perak and Selangor in order to settle this state of disorder. In the same year she also sent a Viceroy to Negri Sembilan. But these

civil officers could not pacify the disturbing element of these states. In the November of 1875, Resident J. W. W. Birch was murdered and Assistant-Resident F. Swettenham narrowly escaped a similar fate. England was, therefore, obliged to send an army from Penang to punish the ringleaders of the outbreak. Fortunately the disturbance was limited to the state of Perak. Generally, the Malays of the Peninsula are not spirited people. So long as they are not taxed too heavily, and their lives and property are safeguarded, they will be content with any ruler.

Eastern states like Pahang, being remote from the highway of the world's commerce, had long been left unnoticed. But in 1881, first Pahang became a protectorate of England, then in 1909 Kelantan and Trengganu followed suit. In Pahang, however, there were certian elements opposed to British rule and they broke out in repeated insurrections, so that England was obliged to send her Indian army to suppress them. In July, 1896, Perak, Selangor, Negri Sembilan, and Pahang signed a treaty with England and organized themselves into the so-called Federated Malay States. In 1909, Keda, Kelantan, Trengganu, and Perlis were conceded to England by Siam, and thenceforth these four states together with Johore have been under British protection.

III. Administrative System. Politically the Peninsula is divided into three large divisions: The British Straits Settlements, the Federated Malay States, and the Non-Federated Malay States. The Straits Settlements include Singapore, Penang, Malacca, Province Wellesley, the Dindings, Labuan, the Cocos Islands, and Christmas Island. The government is located at Singapore and controlled by a Governor. The Federated Malay States include Perak, Selangor, Negri Sembilan, and Pahang. In each of these states is the office of a Resident, and at Kuala Lumpur is the office of the British Resident-General, who, under the direction of the High Commissioner (which office is held by the Governor of the Settlements), supervises the administration of all these states under British protection. There are also several military barracks in these states. All these civil and military officers meet in a convention (a sort of parliament), where, under the direction of the High Commissioner, they discuss all important administrative affairs of the states. Each of these states is subdivided into smaller districts, and each district has a district officer, who executes minor administrative orders. In short, in all respects except its religion (Mohammedanism), the Federated Malay States are under the direct political control of the British government.

The Non-Federated Malay States include all other states of the Peninsula not mentioned above, namely Johore, Trengganu, Kelantan, Kedah, and Perlis. All these states are under British protection. In Johore is a British General Adviser, and in each of Kelantan, Kedah, and Perlis is a Local Adviser. All these advisers supervise the legislative and administrative affairs of the states as the advisers of the Sultans. In Trengganu is a British Agent, who represents

the British government there, but does not actually participate in the administration. The state enjoys self-government.

IV. Communication. *Railway*:—The total mileage of the railways of the Peninsula aggregates 820 miles. The railways belong to the Federated Malay States Railway, which operates both passenger and freight services. Of this mileage, 621 m. are main line and 198 m. are branch lines. However, only the main road from Tank Road in Singapore to Prai, opposite Penang, is in a perfect state of operation. The road from Bukit Mertajam to Gurun, a distance of 34 m., is a part of the main line, but that part of it which runs into the state of Kedah is still in the process of building. There are nine branch lines, all of which depart from the western part of the main line and run towards the seacoast. This total mileage is 165 miles. The line, which approaches the border line of Johore and runs from Gemas Station to Tembeling through the middle of Pahang, extending to 117 m., is a part of the eastern part of the main line. It was opened recently. From this line diverges another banch line, which is 13 m. long and goes to Kuala Pilah. N. of Tembeling the line is still in the process of building. This line is planned to connect at Kelantan with the southern end of the Siam Railway.

Railway equipment.—The guage of the railway is one metre. Both the rails and the sleepers are of fairly strong meterials. The curving and grading of the road are carefully planned, so that, in spite of the comparatively narrow width of the railway, the train does not oscillate. The carriages are not quite up-to-date, but they are solidly built a cording to the English pattern. They are divided into first, second, and third classes. The fare is about 5 cents per mile for the first class, 3 cents for the second, and 2 cents for the third.

Fast Through Train.—Between Singapore and Penang is run once every day a fast through train, covering the distance of 489 m. in from 23 to 24 hours. In the middle of this line is Kuala Lumpur, the capital of the Federated Malay States. N. of it, the train is scheduled to run during the day, both ways, and S. of it during the night, both ways. Therefore, between Kuala Lumpur and Penang the train is provided with a dining car and electric ventilating fans, and between Kuala Lumpur and Singapore it is provided also with sleeping cars. The train is comfortably equipped and the fare by it is about twenty per cent higher than that by the ordinary train. Between Taiping, Tapah Road, Kuala Lumpur, Gemas, and other important stations, there are local services operated four or five times every day. All the branch lines are conveniently operated. Since, however, trains are frequently not run on Sunday, travellers should carefully consult the latest time-table before planning their trip. In the newly-opened lines of the eastern part, the service is as yet very imperfect. From Gemas to Kuala Krau and from Kuala Krau to Tembeling, the train runs only once a day.

Luggage.—Passengers' personal luggage is transported free of charge within the following limits: 100 *katis* = 133⅓ lb. for the first class, 60 *katis* = 80 lb. for the second class, and 40 *katis* = 53⅓ lb. for

the third class. Personal luggage is not checked, and each passenger has to see that it is properly addressed and correctly delivered at the destination. In every station, porters of the railway company are at the passengers' service to carry their luggage free of charge. Recently, the habit of passengers' giving them a small tip has become so customary, that some of these porters actually demand it. It is, however, against the regulations of the railway company, and passengers may accept their service gratis as a matter of course. Each additional *kati* = 1.33 lb. is charged for at the rate of 1 cent up to 50 m., 2 cents from 50 m. up to 100 m., and 3 cents from 150 m. upwards. But a commercial traveller riding first class is allowed to carry free of charge three times the above allowance, and each additional *kati* will be charged for at half the above excess rate.

A Street Scene, Singapore.

Stop-overs.—Passengers travelling over one hundred miles have the privilege of stop-over of one day for each one hundred miles. Within that limit of time they may stop over at any place, but it is required that their tickets should be examined and properly endorsed at the station where they break their journey.

V. Land Routes. The roads of the Peninsula has recently been greatly improved, especially in the western part of the Federated Malay States. In all important cities wide macadamised streets run in all directions. The total mileage was estimated at 2,000 m. several years ago, and it must have increased considerably since then. They are good level roads and are kept in a perfect state of repair. They are well suited for automobiles, and visitors having time and money to spare can enjoy several pleasant trips off the railway lines. In some sections, such as from Seremban

to Kuala Pilah and from Kuala Kubu to Kuala Lipis, there is a railway motor service, which can be utilized conveniently even by passing tourists. Singapore and Penang have electric car services and in other places hackney carriages and rikisha are available. The fares of these vehicles are regulated by the government in such places as Singapore, Penang, Kuala Lumpur, Ipoh, Taiping, and others.

VI. Water Routes. Communication between the surrounding ports of the Peninsula is effected almost entirely by steamship services. The communication facilities of its oceans and adjacent seas have already been dealt with (see P. 265); only its coastal facilities will be mentioned here. The Peninsula has many good ports, and Singapore is the centre of all the steamship lines between these ports. All coasting steamers start from Singapore and go either E. or W. along the shore of the Peninsula, returning to their starting point again.

Ports of Call.—Starting from Singapore and going along the W. shore, the steamer calls at Malacca (117 m. from Singapore), Port Dickson (153 m.), Swettenham (206 m.), Teluk Anson (326 m.), Port Weld (436 m.), and a few other ports, finally reaching Penang (494 m.). The steamer going along the eastern shore calls at Kuala Pahang (171 m.), Kuala Kuantan (189 m.), Kuala Trengganu (292 m.), Kuala Kelantan (377 m.), which last is the port of the northern extremity of the Peninsula. Senggora (498 m.), situated farther N., is a port on Siamese territory. Going still farther N., the steamer reaches Bangkok.

Scheduled Coasting Steamers.—The coastal steamship service is operated by the Straits Steamship Company. The western coast service is much busier than the eastern. Along the eastern coast there is another service operated by a Siamese steamship company. All these services are scheduled as follows:

The Western Coast.

(1) Singapore to Port Swettenham (Straits S. S. Co.'s steamers) calling at Malacca and Port Dickson,—daily (except Sunday); Time taken, 10, 18, and 24 hrs. respectively; *Fares*; $15 1st cl., $8 2nd cl.

(2) Singapore to Teluk Anson (Straits S. S. Co.'s steamers) calling at Malacca, Port Dickson, and Port Swettenham,—thrice weekly; Time taken, 36 hrs. for whole journey; *Fares*, $18 1st cl., $9 2nd cl.

(3) Singapore to Penang (Straits S. S. Co.'s Steamers) calling at Malacca, Port Dickson, Port Swettenham, and Teluk Anson,—thrice weekly; Time taken, 39 hrs. for whole journey; *Fares*, $20 1st cl., $12 2nd cl.

(4) Besides the above, there are between Singapore and Penang the European lines services (P. & O. S. N. Co., Nippon Yusen Kaisha, etc.), and the Indian line service (the Bombay line of the Ōsaka Shōsen Kaisha, British India S. N. Co. Indo-China S. N. Co., and Apcar Line, etc.). (see Introductory Remarks.)

(5) Between Penang and the various ports of the E. coast of Sumatra, and between Singapore and Java and Borneo, there are several regular services.

The Eastern Coast.

Singapore to Bangkok.—There are three steamship services between Singapore and Bangkok via Kuala Pahang (171 m.), K.

Kuantan (189 m.), K. Trengganu (292 m.), K. Kelantan (377 m.), and Senggora (498 m.), etc. The whole journey takes about three days (direct service). The fares are $70 for 1st cl. and $40 for 2nd cl.

(1) Siam N. Co.—twice a week both ways. | (2) Straits S. S. Co.'s steamers—weekly. | (3) British India S. N. Co.'s steamers—irregular.

River Navigation.—There are two important navigable rivers in the Peninsula, namely the Perak of the western coast and the Pahang of the eastern coast.

(1) The River Perak rises on the northern border of the state of Perak, runs through the middle of the state, crosses the main line of the States Railway near Kuala Kangsar, and running farther southwards enters the sea. Its total length is more than two hundred miles. The navigable part of the river is within about 140 or 150 m. S. of Grit. One may sail from Grit or Kuala Kenering, but in these regions only bamboo rafts are available for the purpose, and tourists will find it very much pleasanter and more convenient to sail from Kuala Kangsar by a houseboat. In engaging a houseboat, it is best to apply to the government of Kuala Kangsar. An ordinary houseboat carries two passengers and is manned by eight sailors (seven rowers and one steersman). The wages of each sailor are $\frac{1}{2}$ a day, making a total of $4 a day. Allowing ample time to see various interesting places along the river, the boat will cover the distance of about 70 m. from Kuala Kangsar to Teluk Anson in three or four days. Since passengers have to sleep and eat in the boat, it is necessary that they should be well provided for the purpose before leaving Kuala Kangsar (see P. 318).

(2) The Pahang River rises in the mountains on the N. W. border of the state of Pahang and flows in a S.E. direction. It is the largest river of the Peninsula, and the distance of about 200 m. from Kuala Lipis to Pekan is navigable. The journey of about 60 m. from Kuala Lipis to Kuala Krau is done by a houseboat and takes about one day. From K. Krau to Pekan, for about 129 m., there is a motor-launch service. The time required for sailing down the stream is 29 hours, and that for going up is 55 hours. The fares are $7.47 for 1st cl. and $3.87 for 3rd cl.

Note: From Kuala Kubu to Kuala Lipis there is a motor-bus service running once a day from each end. Between Pekan (K. Pahang) and Singapore and other cities of the eastern coast there run several steamers, as has already been mentioned.

VII. Post and Telegraph. Between Europe and Singapore there is a steamer carrying mail every week. The steamers of the P. & O. S. N. Co., M. M., N. Y. K., and other steamers run between the two at least once every other week. Between various points of the Federated Malay States and the Straits Settlements there are daily mail services. The postage rates are as follows:—

Letters. (1) In the Straits Settlements, the Federated Malay States, Johore, other British protectorates of the Peninsula, British North Borneo, Sarawak, and Brunei,—For any weight not exceeding 2 ounces, 3 cents; For every additional 2 ounces or fraction thereof, 3 cents.

(2) From the Straits Settlements to the United Kingdom, Egypt, the

Soudan, and other British territories,—4 cents for one ounce or fraction thereof; To other places, —For any weight not exceeding 1 ounce, 8 cents: For each additional 1 ounce or fraction thereof 5 cents.

Special rates are charged to some places, but for the sake of brevity these exceptional cases are omitted here. Tourists should inquire about such rare cases at the post-office. All mail envelopes should not exceed two feet in length and one foot in width.

Postcard. (1) In the Federated Malay States, Johore, other British protectorates of the Peninsula, British North Borneo, Sarawak, and Brunei,—Single postcard, 1 cent; Return postcard, 2 cents.

(2) To other foreign countries (there are some places where the communication by postcards is prohibited),—Single postcard, 3 cents; Return postcard, 6 cents. Besides government postcards, private postcards of the regulation size may be used.

Printed Matter. All newspapers published in the Peninsula, or any publication registered as a newspaper at the General Post-Office, London, when mailed within a week after the date of publication, can be transmitted in the Straits Settlements, the Federated Malay States, Johore, other British protectorates of the Peninsula, British North Borneo, Sarawak, and Brunei, according to the following rates:—1 cent for three ounces or less;—1 cent for each additional two ounces or fraction thereof.

For Printed Matter other than Newspapers.—1 cent for two ounces or less; 1 cent for each additional two ounces or fraction thereof.

All parcels of printed matter, addressed to foreign countries in the Postal Union, should not exceed 1½ ft. in length, 1 ft. in width and depth. All printed matter rolled on a stick or a similar axis may be 30 inches long, but should not exceed 4 inches in diameter and 4 lb. in weight, except those going to British territory only, which may weigh 5 lb.

Registration.—The fee for registration in the Post-Offices of the Colony is uniformly 10 cents for each article of correspondence.

Telegraph. All post and telegraph offices accept telegraphic messages for transmission in the Peninsula, provided they are not of a character to disturb the political or the moral order of the states. The service is divided into the two classes of ordinary despatch and urgent despatch. Within the telegraphic system of Malay, the rate is 3 cents a word for the ordinary class (21 cents being the minimum charge for a message), 9 cents a word for the urgent class (63 cents being the minimum charge for a message). The message must be written in Roman letters and Arabian numerals. Symbols and cyphers may be used, except in the time of war. Messages may be expressed in any language, provided they are spelt in Roman letters.

The rate for foreign telegrams varies according to distance. The following are the rates to most important parts of the world (the numbers mentioned below represent the rate for each word by ordinary telegraph):

To Australia $1,10; to British North Borneo 55 cents; to Burma (Overland 44 cents, via Eastern 60 cents); to Ceylon (Overland 57 cents, via Eastern 60 cents); to Hongkong 45 cents; to Peking 80 cents; to Shanghai 60 cents; to Egypt (Alexandria, Cairo, Suez, Port Said, Port Tewfik $1.25); to France $1.25; to India 60 cents; to Japan $1.20; to Java 35 cents; to Manila 70 cents; to New York (New York City and Yonkers) $1.65; to Russia-in-Europe $1.25; to Siam 60 cents.

VIII. Foreign Trade. The principal economic importance of the Peninsula is in its foreign trade. During the past few decades, the Europeans, Chinese, and Arabians of the Peninsula have made

much money by foreign trade. Penang, Malacca, and Singapore are the most prosperous trading ports, and their ever-increasing foreign trade has converted the route between the two ports of Singapore and Penang into a veritable highway of the world's commerce. Singapore, especially, being the centre of the traffic between the Orient, Europe, and the East Indies, is to-day one of the greatest commercial ports of the Orient. The export of the Peninsula has also increased considerably during the past few decades, but, compared with the amount of the passing trade transacted in its various ports, it is still small. The phenomenal development of the foreign trade of Singapore is largely due to the policy of free trade inaugurated by Raffles. This policy was wisely backed by the great colonial policy of Great Britain, which allowed to the people of its colonies perfect freedom of trade and interfered but little with their economic life.

A 'SATAI' SELLER, SINGAPORE.

In the Peninsula labour is costly, and, as a natural result, labourers choose to work as wage-earners rather than to engage in farming on their own account. Consequently the inhabitants, especially city people, have to depend mostly on imported food for their daily provisions. This in turn results in the comparatively large excess of imports into the Peninsula. But in Singapore, where all sorts of freight are assembled, transferred, and stored, some freight is simply stored there without any definite contract or destination. If this mere passing or transitory trade be included, the amount of freight handled in Singapore will indeed be enormous. In the following table such trade is not taken into consideration.

Imports (1914)	£	Exports (1914)	£
Tin ore	8,666,644	Tin	9,989,605
Rice and other grains ..	7,681,303	Gums, including rubber	4,990,589
Cotton piece goods, yarns, etc.	2,652,747	Copra...	2,362,810
Provisions	1,764,784	Spices (including pepper)	1,817,545
Salted and dried fish ...	1,378,130	Hides...	589,658
Tobacco, cigarettes, and cigars	1,350,660	Rattans	380,868
Coal	1,216,179		
Sugar...	907,315		

Classified by Various Ports

Imports	£	Exports	£
Singapore	33,799,827	Singapore	27,591,480
Penang	13,621,595	Penang	12,069,406
Malacca	1,192,556	Malacca	1,937,732
Dindings	33,935	Dindings	43,048

The Federated Malay States (1914)

	Perak	Selangor	Negri Sembilan	Pahang	Total
Imports...	3,376,428	4,078,214	707,983	445,238	8,607,863
Exports	6,883,344	5,429,044	1,386,755	702,519	14,401,662

The chief articles of import are rice, tobacco, live stock, opium, cotton piece goods, sugar, liquor, kerosene oil, iron utensils and various machinery. The chief articles of export are rubber, copra, rice, tapioca, tin, and tin ore. Most of the imported articles come from the United Kingdom (£ 1,892,915) and her colonies (£ 6,080,180), and as to the exported articles, the United Kingdom (£ 2,651,791) also leads the list.

IX. Industry. *Mining:*—The mineral products of the Peninsula are tin, gold, wolfram, coal, and a few others, of which tin is the most important. Recently at a certain locality, some twenty-five miles distant from Kuala Lumpur, coal has been produced in fair quantity. Though the layer in which it is found is a comparatively recent one, the amount of production averages 3,200,000 tons from some 156 acres, and the future appears to hold even better prospects. A further development of this industry will be a great benefit to the Peninsula, which imports yearly a large quantity of coal. Wolfram is found in various places among the deposits of tin ore. In 1913 its export amounted to 3,470 tons (1,176 dollars). Near the River Dungun of the state of Trengganu, another large vein was found, and it is expected that the amount of its production will greatly increase in the future. Alluvial gold is found in almost all parts of the Peninsula. There are some gold

and quartz mines operated by European capitalists, but the production is not large. The Raub mine in the state of Pahang is said to be still profitable, though it produces a low-grade ore. The total amount of gold produced in the Federated Malay States in 1913 was 14,975 ounces. Tin is not only the most important mineral product of the Peninsula, but is remarkable for its large output, which is estimated to exceed one-half of the total output of the world. It is found everywhere in the Peninsula, from mountains several thousand feet high to low regions where it forms alluvial deposits. As tourists travel in the train through the centre of the country, they will see on all sides either rubber plants or white glistening sands. Tin is found more abundantly on the western slope than on the eastern. It is especially abundant in the state of Perak. The word *Perak* means 'silver' in Malay. It is supposed that the first discoverer of tin in Perak thought it was silver, hence the name. Next to Perak, the Kuala Lumpur region in the state of Selangor and the Seremban region in the state of Negri Sembilan are noted for the metal. Recently, while young forests in the state of Pahang were being opened up, tin was found in marvellous quantities, and at present the production of Pahang is next to that of Selangor. In the near future, as its railway will be completed and its western seaport Swettenham better equipped, the tin industry of this state will expand still more.

The acreage of tin-production in 1911 was as follows:

Perak	148,644	Selangor	73,448
Negri Sembilan	22,837	Pahang	32,552

The geological structure of the Peninsula varies more or less in different localities, but, generally speaking, in the high regions that form the backbone of the country it consists of granite, gravel, and crystalline limestone, while the lower regions are mostly made up of alluvial deposits covered with brown coal. Though tin is found scattered in many localities, it is seen most abundantly in the regions of alluvial soil. The mining of the metal is done mostly by Chinese. Tunnels are dug both longitudinally and transversely. Longitudinal tunnels are used mostly in the Kuala Lumpur and Seremban regions, and the transverse ones in Perak and Pahang. In the Federated Malay States, the number of people possessing the right to deal in tin reaches five hundred or more. Tin is transported through the hands of these brokers first to Penang and Singapore, where it is smelted and refined, and then exported to all parts of the world. The number of miners engaged is about 225,000, out of which about 10,000 are Hindoos, Javanese, and Malays, and the rest are Chinese.

In 1912, the total export value of tin-ore and tin in the Federated Malay States was $81,152,000 and $85,573,000 respectively. Tin refined in Singapore and Penang is exported chiefly to the United Kingdom ($45,200,000) and next to the United States of America ($24,982,000).

An export duty of 12 to 13 per cent is levied on the exportation of tin-ore and tin. In 1913 the total value of duty thus levied in the Federated Malay States amounted to $10,671,378. The export duty on gold is 25 per cent, that on Wolfram $33.60 per ton. On all other mineral products an export duty of ten per cent or more is levied. These rates vary somewhat according to the fluctuation in price. The money thus raised constitutes one of the chief sources of revenue for the government, which has done all in its power for the improvement of productive facilities. For instance, the rental of mines is made very low, and all machinery required for mining purposes can be imported free of duty. The government also furnishes fuel, wood, and other materials very reasonably. Viewed from the standpoint of the producer, the government is undoubtedly a benefactor. The transportation facilities, provided by the government enterprise of building railways and other roads, have immensely reduced the time and labour of production.

X. Agriculture. Coconut, coffee, sugar, tapioca, indigo, and sago are counted among the main agricultural products of the Peninsula, but by far the most important one is rubber.

Tapping Rubber Trees.

As the most profitable variety of coffee, Robusta is widely planted, and other agricultural products are doing fairly well. But none of these compares with rubber in its far-reaching industrial significance. The demand for rubber has immensely increased of late, owing to the development of the automobile and various electrical industries. Formerly, rubber was obtained from the wild rubber plants of South America and Africa, but since the beginning of rubber-planting in the Malay Peninsula, the attention of the world has been turned to it as the chief source of good rubber. Old fields have been ploughed up and planted with rubber, and to-day the

rubber of the Peninsula is considered to be one of the chief products of the Orient, side by side with the sugar and coffee or Java, the tobacco of Sumatra, the rice of Siam and Burma, and the tea of Ceylon. Like its tin, the rubber of the Peninsula is famous all over the world, and in fact it produces half the amount used in the world's factories.

With the development of the mechanical civilization of the world, the demand for rubber will further increase. Even to-day, rubber, like cotton and wheat, is one of the necessities of modern life. The rubber plant of the Peninsula is not a wild plant indigenous to the soil. Its botanical name is *Hevea brasiliensis*, and it is commonly called Para rubber, the name Para being taken from Para of Brazil, whence it was first introduced to the Peninsula. There is also a wild variety indigenous to the region. It is called India rubber (*Ficus elastica*) and is found most in the various East Indian Islands, especially Java, Borneo, and Sumatra.

History. In 1873, James Collins, by the order of the British government, made an expedition to the upper reaches of the Amazon, the original home of Para rubber. He succeeded in carrying several hundred seeds safely to London. These were planted in the Kew Botanical Gardens, in London. From them about a dozen young plants were obtained. Six of them were then transplanted to Calcutta, India, but owing to unfavourable weather conditions they all died. In 1876, another Englishman, H. A. Wickham, went to Brazil and managed to carry 70,000 seeds from the regions about the upper Amazon. Owing to the difficulty of preserving the germinating power of the seeds for a long period, he did not dare to risk taking them to India. They were planted in Kew Botanical Gardens. 70,000 young plants were soon obtained, and 1,700 of them were transplanted to the Peradeniya Botanical Garden of Ceylon. They grew there splendidly. In 1876, some of the young plants of the Peradeniya Botanical Garden were taken to a new botanical garden in Singapore. Unfortunately, they were damaged. In the following year (1877) twenty-two young plants were obtained and these thrived. Some of these were transplanted in Perak. These twenty-two plants bore seeds for the first time in 1881. Some of the seeds were taken to Borneo, and some were planted in the Economic Garden of Singapore. Since then, rubber plantations have spread with marvellous rapidity.

Acreage under Rubber.—The climate of the Peninsula is ideal for the growth of rubber. As has already been said, it is never too cold and never too hot for the plant to thrive. Added to this, there is always abundant moisture in the ground on account of the frequent rainfall. According to the investigations of 1912, there were 1,550 different plantations and the total area planted amounted to 621,621 acres. In this estimation some of the smaller plantations managed by Chinese and Malays escaped notice. Adding these and also numerous new plantations, undertaken by new companies or increased by old companies since that year, the present planted area will be considerably more than this figure.

Lease of Land. The Peninsula is still full of virgin soil covered with forests. Such undeveloped land is sold by the government under three classes. The first class includes the regions near railways and is priced at $3 an acre; the second class includes the regions remote from railways and is priced at $2, an acre; the third class is mostly marshy ground and is priced at $1, an acre. Besides the purchase price, the surveyor's fee of from 20 cents to $2, according to the extent of the acreage, is charged. The buyer obtains the right to his land for a period of ninety-nine years, (except in the state of

Johore where the period of rightful possession is lengthened to nine hundred and ninety-nine years).

The tax is $1 an acre annually for a period of six years after the first cultivation, and after that period $4 an acre for the first class and $3 an acre for the second. In the state of Johore, it is 50 cents for the period of six years after the first cultivation and $2.50 an acre after that period.

Planting and Tapping. The forest must first be cleared. Owing to the high cost of transportation, the timber is usually burned on the spot. Then a proper road is laid out and drainage ditches are dug. When the soil is well prepared, young plants raised in a nursery bed are transplanted. They grow so fast that after four or five years they are fit for tapping. The total expense up to this stage is from $200 to $300 an acre. The tapping begins when the trunk of the tree attains a circumference of 18 inches. Each morning, coolies cut the bark of trees thinly with knives. The dripping juice is gathered into receptacles and carried to a factory, where it will be strained and congealed by acetic acid. Then it is put on a squeezing stand, where as much moisture as possible will be squeezed out. After that it will be dried either by wind or by smoke. When thoroughly dried, it will be packed and be ready for export.

	Number of Plantations	Acreage under Rubber	Export (quantity) lb.	Export (value) £
1908	417	241,138	3,186,099	882,000
1909	534	292,035	6,112,023	2,340,000
1910	632	362,853	12,245,864	5,695,000
1911	964	542,877	23,914,263	5,925,000
1912	1,055	621,621	42,462,401	8,523,260

The Labourers on the Rubber Plantations are Tamils, Javanese, Malays, and Chinese. Of these, the Tamils constitute more than one-half of the total number. They are docile and work for low wages. Their average wage is fifty cents a day. Most of them are married and the couples work together, and this practice has proved very satisfactory, both to the employer and the employees. It looks as though the labour on rubber plantations is going to be the monopoly of this race. According to the census of 1912, the number of Tamils engaged on rubber plantations was 145,848, that of Javanese 23,580, that of Malays 19,426, that of Chinese 63,210, and that of other races 3,848, making a total of 255,912.

Coconut Cultivation.—Coconut palms originally grew on the warm coasts of the Pacific and Indian Oceans. Seeds were carried to all parts of the world by the waters of the sea, and at present they grow in all tropical countries. But the regions most famous for their growth are Ceylon, Cochin-China, East Indies, West Indies, and a part of India. Coconut is one of the necessities of life for the natives of tropical countries. Recently it has come to be used in several manufacturing industries, notably soap-making. Since the discovery of a method of producing butter from it, its consumption as daily food is increasing every year. In the Peninsula, the planting of coconut palms has recently become one of its

chief industries. The number of private and corporate plantations is increasing rapidly.

Wild coconut palms have thrived for a long time in the Peninsula, but the exportation of copra to Europe began from 1850. In 1870 copra became one of the chief export articles of the Peninsula. According to investigations made in 1912, the total acreage of coconut plantations is 157,600 acres (Perak 81,320; Selangor 38,323; Negri Sembilan 20,595; Pahang 17,362).

Copra.—Coconut is exported in the form of copra, which is the name given to the dried kernel of the coconut. Copra is on demand in Europe as a raw material for oil and butter. The soap made from the oil of copra has the special quality of making a lather in salt water. Generally speaking, the fluctuation in the price of copra is comparatively small; compared with that of rubber, it may be considered stable. In Singapore, the quotation is about $10 a picul. One ton of copra is obtained from about seven thousand fruits. According to the report of 1914, the export value (dollars) of copra for European countries is as follows:

England	Denmark	France	Germany	Russia	Others
4,207,000	2,254,000	2,218,000	2,835,000	2,013,000	15,566,000

XI. Customs and Manners. Chinese, Hindoos, Malays, and Javanese, who are numerically the chief races of the Peninsula, regard Europeans as their superiors and are content to work under them for low wages. Most of the Chinese immigrants want to save and to go back to their own country with all their savings. Other labourers live from day to day with no ultimate object whatsoever. The Chinese are not only numerically, but economically, a powerful factor in the Peninsula. Their New Year's celebration begins early in February and continue for a week. During this week the entire industry of the country almost stands still. Malays and Javanese are Mohammedans, and for a month, from the beginning of September to the beginning of October, they observe the fasting practice of this religion. During this period they do none but very light work, and this habit of theirs sometimes causes a perplexing and damaging situation in the industry of the Peninsula.

The customs and manners of the Peninsula are as various as are its races, but in general everything tends towards simplicity. Among the Europeans may be found some living as luxuriously and as complexly as in great European cities, but on the whole they are dressed simply in white throughout the year and live as simply in other respects also. Chinese and other labouring people are dressed in short jackets and trousers, and they go bare-footed. On the rubber plantations they wear short khaki jackets and trousers, in order to minimize the amount of washing. In other words, they live half naked.

The food of Chinese and natives is mainly rice, with some vegetables and meat in addition. The natives' food is simpler than that of the Chinese. They eat rice mixed with pepper or curry.

They all chew betel-nut. Chinese smoke opium and Tamil drink wine, while Javanese and the natives are rarely addicted to liquor.

Their dwellings are even simpler. They are small wooden structures thatched with coconut leaves and with floors of rough boards raised two or three feet from the ground. The lowest class of labourers often sleep on a blanket spread over a straw mat laid directly on the ground. But recently, with the development of the rubber industry, the demand for labourers is daily increasing, and planters are beginning to pay attention to the sanitary conditions of their life.

XII. Education and Religion. *Education:* — From the very beginning of the colonization of the Peninsula, the government established in each state schools, where Malay, arithmetic, and some rudiments of geography are taught. Most of the teachers of these schools, both men and women, are Malays. There are also some English schools, taught by English teachers, which are of the same standing as those of other colonies. Distinguished students of the Malay schools are transferred to these English schools. In the Chinese and Tamil quarters there are Chinese and Tamil schools, but the children of these more ambitious races go to English schools, where they seek more advanced knowledge than they can obtain in their own schools. Besides these government schools, there are various missionary schools subsidized by the government. The purpose of the education of the Malays is simply to make them more systematic and accurate in their mode of living, so that they can become a more efficient factor in the economic life of the Peninsula. What the government cares for is that they should possess, besides a fair knowledge of reading, writing, and calculation, some practical knowledge of farming and manufacturing.

Religion.—The religion of the Malays is Mohammedanism, the propagators of which come from India and Arabia and mingle intimately with the natives. According to Mohammedans, taking off one's hat and exposing one's head is considered rude, and they refuse to take off their hats before anybody. The Mohammedan New Year comes sometime in August or September. During one month, beginning from a short time before the first day of their New Year, they fast from sunrise to sunset, eating nothing and drinking nothing except pure water. This privation and suffering is a part of their training. By thus enduring suffering voluntarily themselves, they say they will be able to sympathize truly with the truly suffering.

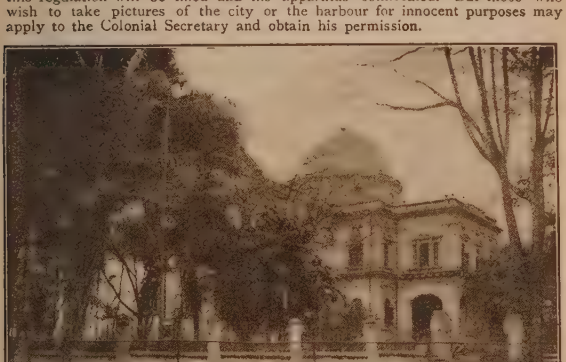
The Hindoos believe in their various cults, and the Chinese in their peculiar polytheism and moral cults. Among Europeans, both Roman Catholicism and Protestantism are widely spread. There are many Roman Catholic and Methodist churches in the Peninsula; the influence of the Methodist Episcopal Mission being especially powerful.

SINGAPORE
Scale 1:25.000
English Mile
Kilometer
REFERENCE NUMBER
1 St Anthony's School G4
2 Portuguese Chapel
3 Chinese R.C. Church
4 St Joseph's Institution
5 Raffles Lodge
6 Medical Offices
7 Raffles Hotel H4
8 Hotel Van Wijk G4
9 St Andrews Cathedral G5
10 Chinese Girls School G4.5
11 Armenian Church G5
12 Hotel de la Paix
13 Adelphi Hotel
14 Municipal Offices
15 Hotel de l'Europe
16 Singapore Cricket Club
17 Victoria Memorial Hall G5.6
18 Govt Printing Office, Supreme Court G5.6
19 Council Chamber & Public Offices G6
20 Chartered Bank
21 Guthrie & Co
22 Medical Hall
23 Hongkong & Shanghai Bank
24 John Little & Co
25 Kelly & Walsh
26 The Arcade & Paterson Simons & Co G6
27 Mercantile Bank
28 Ned Trading Society
29 T.P.D.B. Offices
30 Telok Ayer Police Station G7
31 P. & O. Offices
32 Raffles Place G6
33 Central Fire Station G5
34 Young Mens Christian Ass. F4
35 Ladies Lawn Tennis Club
36 Tramway Power Station F2
37 Sub Post Offices G2
Garden of Economic Plants
Mount Victoria
Mount Alma
Botanical Gardens
Nassim Hill
Goodwood
Monks Hill
Mount Elizabeth
Cairn Hill
Emerald Hill
Tanglin Barracks
Chinese Burial Ground
One Tree Hill
Leonie Hill
Mangrove Swamp
Morison Hill
Institution Hill
Fort Canning
Pearls Hill
Criminal Prison
Sepoy Lines
Lunatic Asylum
General Hospital
Mount Faber
Spottiswoode Park
Craig Hill
Tanjong Pagar
Keppel Harbour
Pulau Hantu
Pulau Brani
Tanjong Teregeh
Race Course and Golf Links
Raffles Statue
Raffles Place
Fraser & Neave Printing Offices
Telegraph Offices
Johnstons Pier
Municipal Incinerator
Malay Spit
South Mole
West Mole Light
Light
Tan Tock Seng's Hospital
Municipal Stone Crusher
New Water Pier
Flyde Terrace Market
Municipal Offices
Chinese Volunteer Club
N.C. Drill Hall
Recreation Club
Telephone Exchange
Sailors Home
Raffles Institution
Supreme Court
Cathedral
Catholic Club
Library & Museum
Tank Road Railway Station
Old Cemetery
Bishop's House
Presbyterian Church
Colonial Secretary
Chinese Girl's School
Malay Burial Ground
Chinese Burial Ground
Cold Storage Depot
Hong Lim's Market
Havelock Road
Pearl's Hill Reservoir
Prison Extension
Sepoy Lines Golf Pavilion
Magazines
Outram Rd School
Warder's Quarters
Chinese Village
Temple
New Maternity Hospital
Bukit Pasoh
Bukit Guthrie
Tanjong Pagar P.S.
Borneo Wharf Ry. Sta
Lagoon West Dock
Lagoon East Dock
Tanjong Pagar
West Wharf
Harbour Board Offices
Sheers Wharf
Gardiner's Wharf
East Wharf
Keppel Wharf
New Harbour Docks
Marine P.S.
Blangah B
P & O. S. N. Co
P. & O. Wharf
St James
Keppel House
Signal Station
Police Station
Telok Blangah Road
Kampong Bharu Road
Kampong Brani
Brani Reef
Royal Engineer Barracks
Reservoir
Tin Works
Salat Sinki
Mt Palmer
Palmer Godowns
Parsee Lodge
Raeburn House
Bukit Purmi
Golden Bell
Flag staff
Reservoir
Market
Breeze Hill
Rush Park
Manastery
Lagoon
Bay
Harbour
Anderson Bridge
Elgin Bridge
Coleman Bridge
Cavenagh Bridge
Ord Bridge
Clarke Quay
Boat Quay
Circular Road
South Boat Quay
Canal Road
Havelock Road
Neil Road
Tanjong Pagar Road
Keppel Road
Telok Blangah Road
Kampong Bharu Road
Orchard Road
Bukit Timah Road
Grange Road
Chatsworth Road
Napier Road
Garden Road
Tyersall Road
Cluny Road
Cluny House
Cluny Lodge
Cree Hall
Holywood
Parkstone
Fern Hill
Nassim Lodge
Nassim Hill House
Scotsmans House
Hurricane Ho
Draycot
Tanglin Club
Goodwood
Brunksome
Blanche House
Monks hill House
Monks hill Cottage
Villa Elizabeth
Cavanagh Villa
Caledonia Club
Cairn Hill House
Governmnt House
Esk Bank
Silver Bank
Orchard Road P.S.
Tanglin Post Office
Officers Mess
Garrison Chapel
Parade Ground
Tolcarne
Woodstock
Burwood
Roohutlee
Auchen Cairn
Hollandsche Club
Bamboo Bank
Chatsworth
Rosemary
Mount Echo
Matheran
Woodside
Irwell Bank
Hazlett
Lochiel Lodge
Moss Bank
Pangkong Prang
Mt Zion Cottage
Stables
Kilometer
Scale 1:25.000
English Mile

Route XXII. Singapore.

Arrival. Singapore may be reached either by land or sea but it is essentially a seaport. Here stop all the passengers coming from Japan, China, and French Indo-China, or from Europe via the Suez Canal, or from Australia and the Dutch East Indies, or from such neighbouring countries as Siam and India. It is the gate of the Far East; all ships, large and small, bound either E. or W., must necessarily pass through this port, and, as to the number of vessels entering and clearing, Singapore occupies the seventh place among the ports of the world. Being a world port, almost all nationalities are represented here, and any passenger will see the flag of his own country waving in its harbour. Those coming by land reach here mostly by train from Penang. All the smaller steamers coming from such neighbouring countries as Siam, Java, etc., moor at Johnston's Pier, but all the ocean flyers going E. and W. anchor in Keppel Harbour or New Harbour.

This port being in a fortified zone, no passenger is allowed to take a photograph or a sketch within one thousand yards of it. Anyone infringing this regulation will be fined and his apparatus confiscated. But those who wish to take pictures of the city or the harbour for innocent purposes may apply to the Colonial Secretary and obtain his permission.



Raffles Library and Museum, Singapore.

As soon as the steamer stops at the wharf, each passenger should choose a reliable hotel and entrust to its runner the care of his luggage. This is the safest and the most convenient way. As loafers occasionally appear on the wharf, pretending to be guides, and offer their services to secure a sampan, etc., demanding an exorbitant fee afterwards, the passenger should be on his guard against such practices. The best way is not to deal with any, except those wearing a cap or an arm-band bearing the name of the hotel at which he intends to stop.

From Keppel Harbour Dock or Tanjong Pagar Dock to the city there are automobile, tramway, carriage, and rikisha services.

Those who arrive at Tank Road Station will not find hotel porters in attendance. The same inconvenience sometimes occurs even at Johnston's Pier. The passenger should, therefore, wire beforehand to a reliable hotel, so as to provide against such an emergency.

Singapore being a free trading port, passengers' luggage will not be examined except on special occasions.

Hotels. Grand Hotel de l'Europe (facing Raffles Plain), *tariff*: $6-10 per day, single; Raffles Hotel (Beach Road), *tariff*: $6 and upwards per day, single; Adelphi Hotel (Coleman Street), *tariff*: $5-8 per day; Hotel Van Wijk (Stamford Road), *tariff*: $5-7 per day; Hotel de la Paix (Coleman Street), *tariff*: $6-8 per day; Sea View Hotel (Tanjong Katong), *tariff*: $ 6-8 per day.

Means of Communication in the City: ***Automobiles.***—available any time day and night. *Fares*: Six passengers, $9 for the first hour and $8 for each additional hour. Four passengers, $5 for the first hour and $3 for each additional hour. $30 for a whole day.

Automobiles can be secured by applying to an hotel. The following are the chief garages in the city:—Gasolene Light and Cycle Co., Beach Road; Maclean's Far Eastern Motor Service, Raffles Square; The Singapore Express Co., Bras Basah Road; Singapore Motor Car Co., 215 and 216, Orchard Road; the Strait Motor Garage Syndicate, 5 A, Orchard Road.

Horse Carriages:

	2nd	3rd
For half a mile or less	15 cents	10 cents
From half a mile to one mile	25 ,,	15 ,,
For half an hour or less	15 ,,	10 ,,
For one hour or less and less than four miles... ...	75 ,,	60 ,,
One day (nine hours) and less than twelve miles, one horse	$ 3	$ 2
For each additional hour above nine hours	40 ,,	30 ,,
From the wharf to the botanical garden and around the city	$ 3	$ 2

Children under the age of ten years, half fare. Luggage exceeding sixteen pounds, carried outside, is charged for at 10 cents per piece.

Livery Stables: Abram's Horse Repository, Orchard Road; Dallan's Horse Repository, 3 and 4, Koek Road; Morton's Livery Stables, Orchard Road; Clark's Livery Stables, 207, Queen Street.

The carriages are classified into two classes, second and third. Those of the second class have rubber tyred wheels. The fares are posted up in each stable. Unless explicitly hired by time, the fare must be paid according to the distance. The above-mentioned fares hold good in the city only. For suburban trips each case should be arranged separately.

Rikishas: Rikishas are available at any place in the city or at the wharf. They are most numerous and are divided into first and second class vehicles. The first-class rikisha carries only one passenger and his hand luggage. Almost all rikishamen are Chinese, and no matter what may be the charge agreed upon, they invariably ask for something extra, which demand should, of course, be ignored.

Fares (in the city).

For half a mile or less ... 5 cents.	For one hour... ... ... 40 cents.
For each fifteen minutes ... 10 ,,	For one day ... ... $ 1.50.

The following table shows the distances and the carriage and rikisha fares to the various parts of the city from the General Post-Office:

	Mileage.	Carriage.	Rikisha.
Botanical Garden (Kebun Bunga)	3½	$ 1.00	35 cents.
Cricket Club; Hotel de l'Europe; High St. ...	¼	15 cents.	5 ,,
French and German Mail Wharf	1½	50 ,,	15 ,,
German Club	2½	75 ,,	25 ,,
Government House	2	50 ,,	20 ,,
P. & O. Wharf	2¾	75 ,,	30 ,,
Raffles Hotel...	¾	25 ,,	10 ,,
St. Andrew's Cathedral; Hotel de la Paix; Adelphi Hotel	½	15 ,,	5 ,,
Raffles Museum	1¼	50 ,,	15 ,,
Tank Road Railway Station	1½	50 ,,	15 ,,
Thomson Road Reservoir	5	$ 1.25	50 ,,

Electric Tramways: The Singapore city and suburban electric tramway comprises four routes, and each route is further subdivided into sections. The fares of each route for each section are five cents for the first class and three cents for the second class. Trams are run once every five or eight minutes from 6.30 a.m. to 11.30 p.m.

R. No. 1.—Tank Road to Keppel Harbour.

Section.
1. Tank Road Terminus to Johnston's Pier.
1-a. North Bridge Road to Market Street.
2. Johnston's Pier to Tanjong Pagar.
3. Tanjong Pagar to Pulau Brani Ferry.
4. Borneo Wharf to Keppel Harbour

R. No. 2.—Tanjong Pagar Dock to Gaylang.

1. Tanjong Pagar to Bras Basah Road.
1-a. Cross Street to Arab Street.
2. High Street to Lavender Street.
3. Arab Street to Post 310 (Gaylang Village).
4. Post 310 to Gaylang Terminus (Tanjong Katong).

R. No. 3.—Lavender Street.

Fare between Serangoon Road and Gaylang Road, 2 cents only.

R. No. 4.—Raffles Hotel to Paya Lebar.

1. Raffles Hotel to Lavender Street.
2. Lavender Street to Bidadari.
3. Bidadari to Paya Lebar Terminus.

RAFFLES PLAIN, SINGAPORE.

Tickets are coloured as follows: Tickets for one section only, white; for two sections, blue; for three sections, yellow; for four sections, green. A 1st cl. ticket is marked with two red lines. Luggage that can be put under the seat or that does not interfere with the convenience of other passengers may be carried free of charge.

Marine Routes. Steamship Companies and Agencies:

(1) Europe and the Orient.

Peninsula and Oriental Steam Navigation Co.—fortnightly; (the Arcade, Collyer Quay).

Nippon Yusen Kaisha—fortnightly; (Agent: Paterson, Simons & Co., Prince Street).

Messageries Maritimes Co.—fortnightly; (5, Collyer Quay).

(2) Dutch East Indies and Australia.

Koninklijke Paketvaart Maatschappij (Royal Packet Navigation Co.)—weekly; (2 and 3 Collyer Quay).

Burns Philp Line—monthly; (Agent: Boustead & Co., Collyer Quay).

(3) India—China—Japan.

Indo-China Steam Navigation Co., Apcar Line—three-weekly; (Agent: Boustead & Co., Collyer Quay).

Nippon Yusen Kaisha (Agent: Paterson, Simons & Co., Prince Street).

Ōsaka Shosen Kaisha (Agent: Guthrie & Co., Boat Quay).

(4) Straits—Burma—India.

British India Steam Navigation Co.—weekly; (Agent: Boustead & Co., Collyer Quay).

(5) Singapore—Penang; Singapore—Siam; Singapore—North Borneo—Zamboanga.

The Straits Steamship Co.—weekly; (Raffles Quay).

Other Steamship Cos.' Agencies.

Pacific Mail Steamship Co., (Adamson Gilfillan & Co., Collyer Quay).

Asiatic Steam Navigation Co., (Adamson Gilfillan & Co., Collyer Quay).

American Asiatic Steamship Co., (Adamson Gilfillan & Co., Collyer Quay).

Canadian Pacific Railway Co., (Boustead & Co., Collyer Quay).

American and Oriental Line to and from New York (Joint Agency:—Collyer Quay).

West Australian Steam Navigation Co. (Joint Agency:—Collyer Quay).

Tōyō Kisen Kaisha (McAlister & Co., Battery Road).

Rotterdam Lloyd Royal Mail Line (Internationale Crediet-en Handels-Vereeniging, Rotterdam; D'Almeida Street).

Java-China-Japan Line (Internationale Crediet-en Handels-Vereeniging, Rotterdam; D'Almeida Street).

'Nederland' Royal Mail Lines, (Internationale Crediet-en Handels-Vereeniging, Rotterdam; D'Almeida Street).

Nanyō Yusen Kaisha (Huttenbach Bros., Collyer Quay).

Oriental African Line (Huttenbach Bros., Collyer Quay).

American and Oriental Line (Huttenbach Bros., Collyer Quay).

Ocean Steamship Co., (W. Mansfield & Co., Collyer Quay).

China Mutual Steam Navigation Co, (W. Mansfield & Co, Collyer Quay).

China Navigation Co., (W. Mansfield & Co., Collyer Quay).

Eastern and Australian Steamship Co., (Guthrie & Co., Boat Quay).

Great Northern Steamship Co., (Paterson, Simons & Co., Prince Street).

Italian Mail Steam Navigation Co., (Behn, Meyer & Co.).

Northern Steamship Co., (Evatt & Co.).

Railway Stations. On the island of Singapore there are eight stations; beginning from the extreme end, Tank Road Station, they are in the order of Newton (2 m.), Cluny Road (4 m.), Holland Road (5 m.), Bukit Timah (6 m.), Bukit Panjang (9 m.), Mandai (12 m.), and Woodlands (15 m.). The ferryboat connects the last station to the station of the opposite shore, Johol Bahru. The

road is operated by the Federated Malay States Railways, and there are run a fast train to Penang once a day, an ordinary train to Kuala Lumpur once a day, an ordinary train to Johol Bahru six times a day, and to Bukit Timah four times a day (only twice on Sundays). Besides these lines, there is a line from Tank Road to Pasir Panjang Station of Keppel Harbour, completed in 1907, and devoted exclusively to freight service.

Post and Telegraph. List of post-offices in Singapore: General Post-Office; Kampong Glam; Kandang Kerbau; Keppel Harbour; North Canal Road; Orchard Road; Paya Lebar; Raffles Hotel; Sea View Hotel (Tanjong Katong); Seletar; Tanglin; Tanjong Pagar.

The General Post-Office is near Cavenagh Bridge and faces Battery Road. The business hours are from 5.30 a.m. to 6 p.m. except on Sundays, when no mail is delivered unless called for at the office. In the sub-post offices, the business hours are from 8 a.m. to 5 p.m. (For postage see P. 279.)

Postal Telegraph Department: The telegraph service of the Peninsula, including Singapore, Penang, Malacca, and all other places, is controlled and operated by the government of the Federated Malay States. The rate for an ordinary telegraphic message is 3 cents a word, with a minimum of 21 cents per message, and that for an urgent telegraphic despatch is 9 cents a word, with a minimum of 63 cents per message.

Eastern Extension, Australia and China Telegraph Co., Ltd., (Pl. G 7) is located at Raffles Quay and is open day and night. (For particulars see P. 280.)

Consulates: American (United States), Rooms 59—61, the Arcade; Austria-Hungary, Grand Hotel de l'Europe; Belgium, 106, Orchard Road; Chili, 106, Orchard Road; China, 76, Bras Basah Road; Denmark, 3, D'Almeida Street; France, 106, Orchard Road; Germany, 2, D'Souza Street; Italy, 7, Change Alley; Japan, 29, Cavanagh Road; Netherlands, 6A, Raffles Quay; Norway, (at Boustead & Co.), 18, Collyer Quay; Portugal, (1st floor, Taiwan Bank), 100 Robinson R.; Russia, 8, St. Thomas's Walk; Siam, 7, Battery Road; Spain, 5 & 6, Collyer Quay; Sweden, (at Adamson, Gilfillan & Co.), 15, Collyer Quay; Turkey, 2, D'Souza Street.

Banks: Banque de l'Indo-Chine (Raffles Place); Chartered Bank of India, Australia, & China (Battery Road); Hongkong and Shanghai Banking Corporation (Collyer Quay); International Banking Corporation (1, Prince Street); Nederlandsche Handel Maatschappij (Netherlands Trading Society—1 & 2, Cecil Street, and 10 & 11, D'Almeida Street); Netherlands India Commercial Bank (193, Cecil Street); Russo-Asiatic Bank (at Borneo Co.'s Office, Finlayson Green); Bank of Taiwan (100, Robinson Road); Chinese Commercial Bank (64, Kling Street); Mercantile Bank of India (21, Raffles Place); Yokohama Specie Bank (31A, Prince Street).

The business hours are from 10 a.m. to 3 p.m. On Saturdays all banks close at noon.

Principal Shops in the City.

Photographic Studios and Supplies:

Lambert & Co., Ltd. (Orchard Road).
Moses & Co., The Standard Photographic Studio (Orchard Road).
Ōtsubo (Hill Street).
Tōgō (Middle Road).
Wilson & Co. (Orchard Road).

Jewellers:

Ismail and Raheen (Bras Basah R.).
Motion & Co. (Battery Road).
Weill & Zerner (High Street).

Book Seller:

Kelly & Walsh (Raffles Square).

European General Stores:

John Little & Co. (Raffles Square).
Katz Brothers & Co. (Raffles Square).
Robinson & Co. (Raffles Square).
Whiteaway, Laidlaw & Co. (opposite General Post-Office).

Hospitals: General Hospital (Sepoy Lines). Tan Tock Seng's Hospital (Balestier Road).

Newspapers: Malaya Tribune and Shipping Gazette—evening daily, price 5 cents, (20 A-C, Collyer Quay); Singapore Free Press—daily morning newspaper with weekly mail edition, (Raffles Place); Straits Times—daily evening paper with weekly issue, 'Straits Budget,' (Cecil Street); Besides these, there are two Chinese papers, one Malay paper, and one or two Tamil papers.

Churches, Missions, etc: Armenian Church of St. Gregory, Hill Street; 'Bethesda,' Bras Basah Road; Baptist Church, Bras Basah Road; British and Foreign Bible Society, Armenian

St. Andrew's Cathedral, Singapore.

Street; Cathedral (Roman Catholic) of the Good Shepherd, Bras Basah Road; Convent of the Holy Infant Jesus, Victoria Street; Methodist Church, Coleman Street; Methodist Episcopal Church, Wesley Church, Fort Canning Road; Our Lady of Lourdes Church, Tamil Mission, Ophir Road; Portuguese Mission, Church of St. Joseph, Victoria Street; Presbyterian Church, Orchard Road; Sacred Heart Church, Tank Road; St. Andrew's Cathedral, St. Andrew's Road; St. Anthony's Convent, Middle Road; St. Matthew's Church, Neil Road, Sepoy Lines; St. Peter & St. Paul's Church, Queen Street; The Mission House, Neil Road.

Schools: Anglo-Chinese School, Coleman Street; Convent of the Holy Infant Jesus, Victoria Street; Methodist Girls' School, Short Street; Raffles Institution, Beach Road; St. Andrew's Church Mission School, Stamford Road; St. Anthony's Boys' School, Victoria Street; St. Joseph's Institution, Bras Basah Road; St. Mary's Home, Tank Road.

Markets: There are in Singapore five important markets. They present busy scenes early in the morning or in the afternoon, when fresh fish or some other provisions arrive in great quantity.

Clyde Terrace Market, in Beach Road; Ellenborough Market, near New Bridge Road; Orchard Road or Tanglin Market; Rochore Market, in the district of that name; Town Market, at the western end of Collyer Quay.

Clubs and Associations: Singapore Cricket Club. This has a beautiful building situated in a corner of Raffles Square near Victoria Memorial Hall. It is the most popular club in Singapore and has nearly seven hundred members. Every afternoon cricket, lawn tennis, football, hockey, and other games are played on the club grounds, and a tournament is held twice a year. Upon the recommendation of one of its members, anybody may be admitted to membership. Singapore Swimming Club. The club has a well-equipped bungalow at a fine summer resort, situated at Tanjong Katong N. E. of the city, and accessible by a launch from Johnston's Pier. Singapore Golf Club. This Club is situated at the end of Buffalo Road. The ground is used also as a race-course. It is the oldest golf club in Singapore, and anybody may be admitted to membership on the introduction of any of its members. Other golf clubs are: Singapore Garrison Golf Club, at Tanglin.—Its members are limited to the soldiers on garrison duty; Sepoy Lines Golf Club, Sepoy Lines; Keppel Golf Club, Keppel Harbour; Ladies' Lawn Tennis Club, Bras Basah Road.—organized and controlled by a committee of women. Men may be admitted as auxiliary members. It has several fine courts and holds a tournament once a year. Tanglin Club, Stevens Road,—reconstructed recently and has many members; Teutonia Club, Scotts Road—a large German Club; The Singapore Club, Exchange Building, Collyer Quay.—It is an important club in Singapore, and admission to membership may be obtained upon the recommendation of one of its members;

Hollandsche Club (Dutch Club, Cairn Hill Road); Singapore Catholic Club, Bras Basah Road; Swiss Rifle Club, Bukit Tinggi; Union Football Club, Jervois Road; Westminster Athletic Club, Kampong Bahru Road; Young Men's Christian Association of Singapore, Orchard Road; Young Women's Christian Association, Dhoby Ghaut; Chinese Christian Association Hall, Prinsep Street Church Ground; Singapore Sailors' Home, North Bridge Road.

Public Offices. Attorney-General's Office, southern end of Esplanade; Audit Office, southern end of Esplanade; Chinese Protectorate, Havelock Road; Coroner's Department, Raffles Road; Council Chamber, southern end of Esplanade; Detective Police Department, Robinson Road; District Court, South Bridge Road; Education Department, southern end of Esplanade; Gaols, Sepoy Lines; Government Marine Surveyor's Office, behind Marine Dept.; Government Printing Office, beside Supreme Court; Government Analyst's Department, Lunatic Asylum, Sepoy Lines; Government Monopoly Department, Cecil Street; Government Savings Bank, in the General Post-Office; Land Office, southern end of Esplanade; Marine Dept. (Master Attendant's Office), near Cavanagh Bridge-town side; Medical Department, southern end of Esplanade; Municipality Office, facing Esplanade; Official Assignee's Office, southern end of Esplanade; Police Courts, South Bridge Road; Police Inspector-General's Office, South Bridge Road; Police Superintendent's Office, South Bridge Road; Public Works and Survey Department, southern end of Esplanade; Registrar of Deeds' Office, southern end of Esplanade; Secretariat, southern end of Esplanade; Sheriff's Department, southern end of Esplanade; Supreme Court, southern end of Esplanade; Treasury and Stamp Office, southern end of Esplanade.

Situation and Geological Structure. Singapore is situated on the S. coast of Singapore Island. The island faces the state of Johore, the southern province of the Malay Peninsula, across a strait called Old Strait (or *Selat Tebrau*), one to two miles wide. Its size is 25½ m. from E. to W., 14 m. from N. to S., 66 m. in circumference, and 217 sq. m. in area. Except for some small, low hills rising here and there, the ground is generally level. The highest of these hills is Bukit Timah, about seven miles distant from the city. Even this scarcely exceeds five hundred feet. The soil of the island is gravelly, with spots here and there of good clay deposit.

The island is 77 m. N. of the equator. Its N. lat. is 1°17′ and its E. long. is 103°51′. Its time is, accordingly, seven hours earlier than that of Greenwich. Judging from the shallowness of its surrounding sea and the character of its flora and fauna, this island must once have been connected with Sumatra, Borneo, Java, and other islands scattered numerously around its coast, forming a part of an extended continent of Asia.

Singapore is well protected from rough elements. In the W. Sumatra Island breaks the storms from the Indian Ocean. In the E. the Malay Peninsula blocks the path of the periodical typhoon

of the China Sea. In the front the numerous isles form a natural bulwark of the port. The harbour is deep and engulfed by the land. Further, the island is removed from the volcanic vein, which starts from Japan and runs south-westwards via the Philippine Islands to Java and Sumatra. All these geographical conditions make Singapore an ideal port, free from any effect of tempest and hurricane.

Population. The total population of the city of Singapore (217 sq. m. in area) is 303,321, of which the white peoples number 5,711 and the coloured peoples 297,610. It averages 1,398 people to each square mile. The annual birth-rate is 21.69 per thousand inhabitants, and the death-rate 51.10 per thousand. Classified according to occupations, the population comprises 11,986 engaged in agriculture, 8,735 in industry, and 40,857 in business.

CAVENAGH BRIDGE, SINGAPORE.

It must be noted that the most numerous race is not Malay but Chinese. Chinese are proportionately more numerous in the city than in the country. In Singapore and Penang they constitute from seventy to eighty per cent of the total population Besides these, there are several thousand Chinese who live on the water, that is to say, in boats moored in the harbour. They do not simply use boats as a means of livelihood, but they there conduct their business of life: marriage and funeral ceremonies are held in them, and fowls and other domestic animals are raised in them. Some of the occupants have never set foot on land.

The influence of the Chinese in Singapore is great, and they call themselves the monied class of the East Indies. In fact, there are many Chinese millionaires, and the number of Chinese with lesser fortunes, who exercise considerable influence in the commercial society of the city is incalculable. Most of these Chinese have come from Kwangtung, Fuhkien, and Hai-nan. They elect among themselves their representatives in the city administration. They have their own chamber of commerce, which, though not recognized officially quite

in the same way as the British chamber of commerce, exercises in reality a great influence; so great, in fact, that even the government of the British Straits Settlements and the city government have always to watch its policy. When the port of Singapore was first opened by the British government, it had only a few hundred inhabitants; but after Sir Stamford Raffles, the builder of the port, inaugurated the policy of free trade and immigration, its population rapidly increased, and in 1910 it had reached 300,000. The Chinese were quick to seize the opportunity thus presented, and their tide of immigration has flowed into the port in ever-increasing volume, until now they have become the dominant race of the Peninsula in all respects except politically. Some Chinese had settled here even before the opening of the port, and when the port was opened they were already firmly established. Most of the rich and influential Chinese are descendants of these pioneers, and their present prosperity is not to be wondered at.

The next in point of numbers are the Malays and Javanese. They are tropical races and better able to stand heat than the Chinese, but they show a disinclination for hard work, for which, nevertheless, they are naturally fitted. Instead, they prefer to take up petty, light occupations, such as driving, inferior clerical employment, and domestic service. Another race, more noteworthy for the striking appearance of its individuals than for its numbers, is the Hindoo. The visitor's attention will first be attracted to the tall, brown, white-turbaned figure of a Hindoo policeman, or to a big, austere figure, with flowing beard, walking through the streets bare-headed and bare-footed, and dressed in white with a big, smooth, protuberant belly, the typical Hindoo usurer; or to a specially black figure, with long, thin legs like a pair of sticks; this is a Hindoo labourer, engaged mostly in the work of repairing the streets. The first is a Bengali, the second a Chetty, and the third a Tamil. They are all strong and constitutionally adapted to the open air work of the tropical country.

Climate and Hygiene. Considering its tropical position, Singapore has a surprisingly mild climate; it is especially adapted to the rearing of children. Children grow splendidly under its invigorating influence, so much so that Singapore is frequently called the 'Paradise of Children.' There is, of course, an occasional hot spell during the daytime, but before the heat becomes unendurable, it will be broken by a shower, which stops as suddenly as it comes and is generally accompanied by a squall blowing in the direction of the monsoon.

Beriberi and Malaria are supposed to be prevalent diseases in this region, but a careful examination will show that they are by no means the universal causes of the death of its inhabitants. According to the census of 1914, the number of deaths is 15,499 against 6,580 of births. This high death-rate is mainly due to the poor sanitary knowledge of Malays and Hindoos, and the excessively hard labour of Chinese immigrants, who are not sufficiently prepared to withstand the change of climate. The proof of this statement is clearly shown in the small number of deaths among Europeans, who are not constitutionally adapted to the tropical life, but manage to maintain splendid health by dint of sanitary precautions and a careful readjustment of their mode of living.

Imports and Exports. Singapore is essentially a port of transit. During the year 1914, the total value of the imports of Singapore was $280,430,001 and that of the exports was $220,835 860. The chief items of import are rice (38,230,413), tin ore (37,628,232), copra (14,346,301,) Para rubber (13,803,570), fish, dried and salted, (10,698,226), coal (8,224,424), and sugar (7,555,618). The chief

exports are tin (40,903,876), Para rubber (21,327,749), rice (31,146,285), and copra (15,134,184).

Docks. Tanjong Pagar Dock is one mile E. of Singapore. It was acquired by the government of the British Straits Settlements in 1906, at a cost of £3,448,339, and has since been greatly improved with a view to making it the greatest and the most perfect dock in the Orient. Its great wharf can accommodate several large ships at a time, and it is provided with a spacious warehouse and a coal shed having a capacity of 50,000 tons. Hand-cars are run along the wharf and greatly facilitate the loading and unloading of freight. There are two graving docks, Victoria Dock and Albert Dock. The former is 450 ft. long and 65 ft. wide, the latter is 485 ft. long and 60 ft. wide. There is also a wet dock, called the Lagoon Wet Dock, having an area of 24½ acres and a depth of 30 ft. About three miles W. of Tanjong Pagar Dock is the New Harbour Dock. No. 1 Dock is 375 ft. long and No. 2 is 444 ft. long. It is provided with a shed and a factory.

At the E. end of Keppel Wharf is a new graving dock, called King's Dock. It was completed in 1912 and is 894 ft. long, 100 ft. wide, and has a sill-depth of 34 ft. It is the greatest dock E. of Suez.

According to the returns of 1914, the total cost of the harbour works was £1,545,000, and the total tonnage of merchant vessels entering and clearing was 16,019,150 tons, of which British vessels contributed 51.7%, Dutch 13%, Japanese 12%, German 8.8%, French 4.1%, while those of other countries were almost negligible.

General Description of Singapore. The S. coast of the city is fringed by a row of docks and wharfs. New Harbour Dock (or Keppel Harbour Dock), situated at the southern end, is famous for its great graving dock. There are also the Eastern Extension Cable Station and an electric factory operated by the Tanjong Pagar Dock Board. Both of these are well equipped. North of the dock is a small hill, called Mount Faber (300 ft.), on which stands a signal station (Pl. B 9). The hill commands an excellent view of the harbour. East of the dock is the P & O Wharf, where the steamer of the P. & O. Mail Steamship Co. arrives once a week. This is the only private wharf in Singapore. Towards the E. of the P. & O. Wharf across Sibet Bay, a small hill called St. James projects far into the sea. On its top stands a building of the Straits Trading Co., and at its foot lies a Malay village called Kampong Jago, noted from long ago for the production of sarongs. Next to it is Jardine's Wharf, which is rented by the Tanjong Pagar Dock Board and is now in the process of rebuilding. A section of 600 ft., the old Borneo Wharf, is completed; Japanese, German, and French vessels stop at this wharf. Farther E. of it are the Lagoon Wet Dock and Tanjong Pagar Dock. East of these follow in succession No. 6 Section, No. 5 Section, No. 4 Section, No. 3 Section, No. 2 Section, and No. 1 Section. No. 2 Section is reserved specially for British vessels.

Going E. along Keppel Road the visitor, after crossing Tanjong Pagar Road, comes to Anson Road, which is near the seacoast. Taking the road northwards, one comes to a point from which Palmer Road branches off eastwards. On entering Palmer Road, one will come to Mt. Palmer, where there are a Malay village and the Palmer Warehouse. Near it are a Malay cemetery and a Chinese temple, the latter an excellent model of Chinese architecture. From this place northwards to Johnston's Pier, the entire strip of land has been bought by the government from the Tanjong Pagar Dock Co. It comprises eighty-eight acres of newly-reclaimed ground, and a great harbour project is contemplated.

A Malay Temple.

Going northwards along Anson Road, one enters Robinson Road, where the traffic is much busier. As one goes farther towards the sea, one comes to Raffles Quay across Sir John Jackson's Yard. The Quay runs along the coast and the Telegraph Office (Pl. G 7) is situated in this street far up from the yard.

Going N. along Raffles Quay or Robinson Road, one comes to Collyer Quay. Johnston's Pier (Pl. G 6) is on this Quay, and, being a gathering and distributing point for various kinds of freight, its traffic is exceedingly busy. Most of the large freight to be exported to Europe and Asia is first brought here and then transported to Tanjong Pagar across the water. Near Johnston's Pier are the Singapore Exchange, Singapore Club, Chamber of Commerce, General Post-Office, and other public buildings. On Collyer Quay are many large mercantile houses, such as Boustead & Co., Paterson, Simons & Co., Hongkong & Shanghai Banking

Corporation, etc. In front of the General Post-Office (Pl. G 6), near the entrance of Battery Road, is Tan Kin Seng Fountain, presented to the city by a Chinese of the same name.

Going W. along Battery Road and turning to the left, one comes to Raffles Place (Pl. 32, G 6), which is the commercial centre of Singapore and noted for its busy traffic and the great number of large mercantile houses, among which are John Little Co. Kelly & Walsh, Katz Bros., etc. Both visitors and inhabitants will find here almost anything they can wish to buy.

Coming back to the General Post-Office and going N., past a large drapery establishment, Whiteaway Laidlaw and Co.'s., one comes to the bank of the Singapore River. From its suspension bridge, Cavenagh Bridge, one can command an excellent view of Boat Quay, where Chinese junks of various colours, red, yellow, and blue, are assembled, and on the bank stands a row of small Chinese houses. The houses of Singapore, like its inhabitants, are a conglomeration of large and small, old and new, Chinese and European. Cavenagh Bridge was built between 1859 and 1867 by the then governor of the colony, Orfeur Cavenagh. Farther down the stream is another bridge, called Anderson Bridge, over which run the electric trams and other heavy vehicles. It was built in 1909, at the joint expense of the government and the city, and named after the then governor, Sir John Anderson.

Crossing the bridge, one will see on the left hand side a row of official buildings, such as the Supreme Court, Printing Office, Secretariat, Audit Office, Registrar of Deeds Office, Land Office, Public Works and Surveying Department, Treasury and Stamp Office, Education Department, etc. Near these buildings stands the Victoria Memorial Hall (Pl. 17, G 6). In front of the hall is a small bronze statue of an elephant, presented by H. M. Somdetch Phra Paramindr Maha Chulalong Koon in 1871, in token of his visit to this place. On its base is inscribed a brief account of his visit in English, Chinese, Siamese, and Malay. Opposite it stands an obelisk, built in 1850 as the guardian monument of the freedom of the city of Singapore, on the occasion of the visit to the city of the Viceroy of India, the Marquis of Dalhousie. The Victoria Memorial Hall is a beautiful building in the Renaissance style of architecture. On the middle of its roof stands a tall clock tower, and the striking of the clock is heard throughout the city. It was built in memory of the late Queen Victoria. The hall is partly used as a theatre, where good plays presented by touring actors or amateur performers can often be seen. The memorial hall itself is beautifully decorated and rarely used. On its walls are hung the portraits of all the successive governors of the colony and other meritorious personages.

Adjoining this building is a spacious ground called Raffles Plain, and at its S. end is the Singapore Cricket Club (Pl. 16, G 5). East of this place along the seashore runs a road shaded by angsena trees. It is called Connaught Drive and is noted for its cool refreshing breeze and excellent view of the harbour, where lie

anchored men-of-war, merchant vessels, and all sorts of smaller boats, the so-called 'Mosquito fleet.'

In the centre of Raffles Plain stands a bronze statue of Sir Stamford Raffles (Pl. G 5). It was erected in 1887 and unveiled by the then governor, Sir Frederick Weld. It stands on a pedestal of granite and faces the sea.

Sir Thomas Stamford Raffles was born on July 5th, 1781 in a boat off Jamaica Island. His father was the captain of the vessel. At the age of fourteen he became a junior clerk in the East India Company in London, and at twenty-four he came to Penang as an assistant secretary of the company. During the year 1808, while staying at Malacca, he applied himself at odd times to the study of the Malay language and customs. Thus he prepared himself for his later brilliant career. In 1811 he accompanied Lord Minto on his expedition to Java. For five years he stayed in the island as Vice-Governor and revealed his administrative talent.

In 1814 his wife died. (A monument to her memory stands in the Botanical Garden of Buitenzorg.) In 1816, when Java was restored to Holland, he went back to England. On his way home he visited Napoleon at St. Helena and discussed with him the existing conditions and the future of Java. In the summer of 1817 he was knighted and appointed Viceroy of Benkoelen on the W. coast of Sumatra. In March of the following year he took up his new duties and at the same time married again.

Raffles saw that Britain's urgent need for the future expansion of her oriental trade was the possession of a good port between the Indian Ocean and the Malay Peninsula, a thing which she must acquire at all costs. He presented his view to Warren Hastings, the then Viceroy of India, and, with his sanction, sought to secure some good port S. of Malacca. In February, 1819 he planted the British flag for the first time in Singapore, under an agreement with the Sultan of Johore, to whom the British government paid $600,000, besides an annual tribute of $24,000. In 1837 the government of the British Straits Settlements was established in Singapore, and British influence in the Peninsula has steadily increased ever since, until to-day the whole country is virtually under British control; and Raffles was the builder, as well as the conceiver, of this British power in the Orient. In 1823 he returned to Benkoelen and, packing up all his personal belongings, set sail for England. Unfortunately a fire broke out in the ship during the voyage, and all the botanical samples and other valuable reference materials that he had patiently and laboriously accumulated, were burned. On July 5th, 1826 he died in his home at Highwood in Middlesex. He was then forty-five years old. In 1887 his memory was honoured by a tablet in Westminster Abbey, and at the same time a statue was erected to his memory at Singapore.

Parallel with Connaught Drive, but separated from it by Raffles Plain, runs St. Andrew's Road. At its entrance stands the Hotel de l'Europe (Pl. 15, G 5), which, with Raffles Hotel, is one of the two largest hotels in Singapore. In this street are also the City Hall and St. Andrew's Cathedral, the latter a gothic structure with a spire 204 ft. high, built in 1861, and belonging to the Anglican church.

Going N. along Raffles Plain, one comes to Beach Road. Along this road, near the seacoast, is Raffles Reclamation, which is used as the drilling ground of the Singapore Volunteer Club and adjoining the N. corner of the drilling ground is the Chinese Volunteer Club. Facing the Reclamation is the Raffles Institution (Pl. G 5) built by Sir Stamford Raffles in 1823. It is an elementary English school and the largest educational institution in the Peninsula. Next to this is Raffles Hotel (Pl. 7, H 4). On this road are several Japanese hotels and restaurants (Sekiden-kan, Miyako

Hotel, etc.). Running parallel with Beach Road is North Bridge Road, which is the centre of the Japanese and Chinese commercial business in the city. Of all the roads that branch off from Beach Road and run in a N. W. direction, the busiest are Middle Road and Rochore Road. In the latter there are many shops selling birds and animals. Pigeons, Javanese sparrows, various kinds of monkeys, white rabbits, porcupines, tiger-cats, bears, cassowaries, various kinds of parrots, cockatoos, guinea-pigs, parakeets, pheasants, hornbills, lorises, civet-cats, squirrels, snakes, and other animals are found there in abundance. Those who are not repelled by the prevailing odour may find the place quite amusing.

Going N. E. along North Bridge Road, one comes to Tanjong Rhu, a point overgrown by tall casuarinas. Its N. E. seacoast is a pleasant promenade, called Tanjong Katong.

Running in a N. W. direction from Raffles Plain is Stamford Road. On its left side are Raffles Library and Museum (Pl. G 4).

To its S. W. is a small hill, called Fort Canning, which faces Fort Canning Road. As the hill was once the site of Raffles' official residence, it was afterwards called Government Hill. For about forty years the government of the British Straits Settlements met on this hill. The building is now used as military barracks. On the southern summit of the hill stands a signal tower, 156 ft. high, built particularly for the safety and convenience of the vessels passing to and from the Orient.

Going farther along Stamford Road and then entering Orchard Road, one will see the Young Men's Christian Association (Pl. 34, F 4), the Ladies' Lawn Tennis Club (Pl. 35, F 4), the Presbyterian Church (Pl. F 4), and, beyond on the right side, the Government House Gate. Entering the gate, one is on Edinburgh Road. Ascending this road one comes to the front of Government House (Pl. F 2), situated on Government Hill. It was built at a cost of $220,000 (of which $40,000 was the price of the ground). The government was first located at Fort Canning and next moved to Leonie Hill on Grange Road. When it was freed from the control of the British government in India and became an independent British colonial government, it moved to Government Hill, where the present magnificent structure was built by the first independent governor, Sir Harry St. George. When this expensive project was made known, the general public vigorously protested against it, on the ground that it was an unnecessary expenditure, but now even this building is not big enough to accommodate the large number of guests on such public occasions as the birthday of the King of England. The building was completed in 1869, and in 1890 the modern electric lighting system was installed. It is built in the style of combined Doric and Ionian, and its inside decoration is superb. Further, the hill commands an extensive view of the city and its surrounding land and water.

Leading in a southerly direction from Government House Gate is Tank Road. It extends to Tank Road Station (Pl. F 4).

Going along Orchard Road past its market place and turning to the N. W., one comes to Tanglin, which is the best residential district of Singapore, and shaded by the luxuriant foliage of tropical plants. Hollandsche Club (Pl. E 3), Teutonia Club (Pl. D 2), Tanglin Club (Pl. D 2), and other beautiful buildings are all situated in this district. Turning to the left from Orchard Road and entering Napier Road, one will see there the Tanglin Barracks (Pl. A 3), near which are a drill ground and golf links, and to the N. a botanical garden (Pl. A, 2).

Places of Amusement: Victoria Theatre, in the Memorial Hall; 'Casino' Cinematograph Hall, Beach Road; 'Palladium' Cinematograph Hall, Orchard Road; 'Gaiety' Picture Palace, Junction of Albert and Bencoolen Streets; The Harima Hall, Cinematograph, North Bridge Road; 'Alhambra' Cinematograph Hall, Beach Road; Royal Theatre, North Bridge Road.

Places of Interest: ***Botanical Garden*** (Pl. A 2). The garden is situated in Tanglin district about three miles N. W. of the city. Its area is 300 acres and it contains all kinds of tropical plants, being especially noted for its extensive collection of orchids. The grounds are at an elevation of 200 ft. above the sea-level and are beautifully laid out with ponds and walks. Though the tropical rain is beneficial to the growth of trees, it seems to be deleterious to flowers and other tender plants, for which reason perennial flowering plants are rarely seen in the garden. Those who are interested in the study of tropical plants may obtain a copy of the 'Garden Guide' or 'Index of Plants' for reference.

The first botanical garden in Singapore was laid out by Sir Stamford Raffles in 1822, on a vacant tract of about forty-eight acres, on the N. W. of Fort Canning. Seven years later this garden was destroyed by Lord George Bentinck, and in 1860 the present botanical garden was constructed by the efforts of the Agri-Horticultural Society of the city. In the beginning, it was not, of course, on so large a scale as at present. In 1874 the garden was transferred from the society to the government, which placed it under strictly scientific management. James Collins was entrusted with the task of improvement. He is also known as the first man who tried to propagate Para rubber in Europe. In 1875 H. T. Murton became the manager of the garden, and by his efforts it was greatly improved. The number of species of plants increased from five hundred to thirteen hundred. N. Cantley succeeded him, and in 1884 the Garden of Economic Plants was established between Clung Road and Dalvey Road. The next important manager, N. Ridley, devoted his attention exclusively to the study and propagation of the original plants of the Peninsula. There are several volumes on the subject published by him. The development of rubber-planting in the Peninsula is largely due to his encouragement.

Raffles Library and Museum (Pl. G 4). This is situated at the junction of Stamford Road and Orchard Road. Both the library and the exhibit room are open daily (except on Sundays) from 10 a.m. to 6 p.m. In 1844, when first established, it was a small private library, but in 1874 there arose a general movement to collect all botanical samples and books of the Peninsula in one public building. As a result, the original library was transferred to the government and renamed Raffles Library and Museum, and since then the number of volumes has increased from 3,000 to 35,000. At

first it was housed in Raffles Institution and Town Hall, but in 1887 it was moved to the present location. The museum collection consists chiefly of botanical and zoological specimens of the Peninsula. The specimens of fruits are mostly in the form of wax models, and the animals are preserved either in alcohol or stuffed. There are orang-utans, siamangs, Indian whales, elephants, rhinoceroses, seladangs, tapirs, panthers, and various birds, poisonous snakes, big serpents, and other reptiles. There are also exhibited old coins, tin utensils, native swords and spears, models of natives' houses and boats, musical instruments, images of Buddha, natives' clothing, and other curious objects of the Peninsula. Especially interesting is the collection of various kinds of monkeys. Those who are interested in the study of such things may obtain a copy of the 'Zoological Collection' from the office.

Reservoirs. There are two reservoirs. One of them is situated about four miles and a half N. of Thompson Road. The enclosure is beautifully turfed and planted with trees. The reservoir is large and looks like a natural lake. It is surrounded by spacious grounds provided with numerous benches. The other is also situated to the N. of Thompson Road, six miles and a quarter distant from the city. It was built in 1912 and is called Kalang River Reservoir. These two reservoirs can supply daily 9,000,000 gallons of water.

Race-Course (Pl. G 2). This can be reached from Kampong Java Road and Buffalo Road to the E. of Government Hill. The ground is also used as the golf links of the Singapore Golf Club. Twice a year, in May and November, a race meeting is held here under the auspices of the Singapore Sporting Club.

Tanjong Katong. This is a bathing place, situated towards the N. E. of the city. Since the road is not only good but beautiful, as it runs through mangroves and coconut palms and along the seacoast, it affords a pleasant automobile trip. To Tanjong Katong Road there is an electric tramway.

The Gap. The drive known as 'Round the Gap' is the most beautiful drive near Singapore. About six miles S. W. of the city runs Buona Vista Road. Riding along this road and passing through a rubber plantation and then turning to the left, the road leads along the coast, commanding a wide view of the sea with all its isles and islets. Business men of the city, as they drive their automobiles along this road after their day's work and enjoy the glorious sunset and the refreshing evening breeze from the sea, have surely no cause to complain of the natural beauty and pleasant life of Singapore.

Route XXIII. Singapore to Penang,—

Federated Malay States Railways.

General Description of the Route. The railways of the Malay Peninsula at present open consist of 489 m. of the western coast main line, between Singapore (Tank Road Station) and Penang (Prai Station), with its eleven branch lines of the total mileage of 206 m., and 117 m. of the eastern coast main line, between Gemas and Tembeling, with its branch line of 13 miles. The total mileage of all these lines is 825 m., and besides these there is the lately-built line of 83 m. between Kuala Kubu (285 m. from Singapore) and Kuala Lipis, which connects the two places by motor service. All important cities and ports are connected with one another by these railways in the following order (the distances are all measured from Singapore):

Malacca (192 m.), Seremban (201 m.), Port Dickson (226 m.), Kuala Lumpur (246 m.), Port Swettenham (273 m.), Teluk Anson (361 m.), Kuala Lipis (368 m.), Ipoh (376 m.), Taiping (429 m.), Port Weld (437 m.), etc.

As to the general features of the equipment and operation of these lines, the reader is referred to the section under 'Railways' in the General Remarks (P. 276). For further particulars he should consult the time-table published by the railway office, a copy of which can be obtained for ten cents. In the following we shall give a brief general sketch of each important locality.

Singapore — Gemas, including the British Protectorate of Johore. Starting from the Tank Road Station of Singapore, the train runs northwards through the middle of Singapore Islands for about fifteen miles, until it reaches Woodlands Station. It passes by the botanical garden and through the country dotted with orchards of mangosteen, and other fruit trees. As it approaches Woodlands, the country becomes verdant with extensive forests of Bruguiera gymnorhiza, Lam. From Woodlands to Johore Bharu (17 m. from Singapore) on the opposite shore, the distance is about two miles, traversed in eight minutes by a steam ferry. A project to build a bridge over the strait between these two points is now on foot, and, when it is accomplished, the facility of transportation will greatly increase, reducing the time by from half an hour to an hour.

Johore Bharu is the capital of the state of Johore and is notorious as a gambling place of Chinese and Malays. On a hill facing Woodlands across the water (Strait Tebrau) is seen the Sultan's palace appearing picturesquely from the wood.

The State of Johore. The state has an area of 9,000 sq. m. and occupies the southernmost part of the Peninsula. It is under the rule of the native Sultan Ibrahim and administered by a general adviser, aided by several British advisers, one in each department. In the question of its foreign policy, it is entirely under the control of the British Government. Since 1909, when the Federated Malay States Railways were completed and connected with Singapore, the country, which had hitherto been left in an absolutely wild state, has been opened up with marvellous rapidity,—the regions lying along 120 m. of the line having particularly benefited.

Its new capital, Johore Bharu, is the city nearest to Singapore, from which

it is distant about fourteen miles to the N. E. This city has a population of 20,000, of which Chinese immigrants constitute the main element. The old capital, Johore Lāma, is several miles N. along the River Johore.

The total population of the state is about 190,000, and Malays and Chinese are the races most numerously represented in it. The Chinese are mostly engaged in the cultivation of gambier and pepper; but, owing to the rapidly increasing prosperity of rubber and coconut plantations, the cultivation of gambier and pepper is now on the wane. In 1913, the area under rubber was 117,022 acres, and the export amount of the same year reached 1,645 tons. The land leased for the purpose of rubber-planting is 344,203 acres.

Recently Japanese have started many rubber plantations, and the area leased to them covers more than 111,000 acres. The chief products of the state are rubber, copra, gambier, pepper, sago, lumber, and rattan. These are all exported from Singapore.

Johore Bharu being the southern terminal of the main line of the Peninsula, the traveller going from Singapore to the inner part of the Peninsula must necessarily change trains at this station. From here the train runs through the hilly central regions of the state, and on both sides of the line extend rubber plantations mingled with patches of wild jungle. Especially in the vicinities of the stations of Sedenak (42 m.), Rengam (58 m.), and Niyor (75 m.), fairly extensive plantations are to be seen. Some of these plantations are already matured, some are yet young, and some are just set out or merely prepared. Sometimes between rows of young plants are interplanted tapioca and pine-apple. In the jungle can be seen row upon row of various strange and rare trees projecting high into the sky. Most of the trees are coconut palms and rattans, and some have large leaves resembling palms. Among the bushes one catches frequent glimpses of wild flowers, which add bright touches of colour to the otherwise monotonously verdant country.

Going farther N. the train approaches Segamat (122 m.), where the view on the eastern side becomes suddenly narrowed and hemmed in by the mountain range on the northern border of the state. Meanwhile, the train crosses the River Muar and reaches Batu Anam (131 m.), where, as in Segamat, are fairly extensive plantations. The next station is Gemas.

Gemas—Malacca—Kuala Lumpur. Gemas (138 m. in 6½ hrs.) is a town on the southern border of the state of Negri Sembilan. As the E. coast line (going to Pahang and Kelantan) starts from here, passengers bound for these states have to change at this station.

From Gemas, after passing one small station, one comes to Batang Malaka (155 m.), where the territory of Malacca begins. The third station from this point is Tampin (170 m.), which is the junction point of the Malacca branch line, and in its vicinity can be seen tracts of rice-fields and also some rubber plantations set out on lalang-covered hills. In all the stations N. of Gemas the traveller will observe croton and other flowers set out within the station enclosure. From Tampin to Malacca the distance is 22 m., covered in about an hour.

Malacca (192 m. from Singapore, 10 hrs' ride, has a railway rest-house: daily inclusive charge, $3.50; use of bed-room per night,

1.00; breakfast .75; tiffin 1.00; dinner 1.00). The visitor's attention will first be attracted by a small hill, called Saint Paul, with a half-ruined chapel and a signal station. Taking Bona Vista Road, which runs in front of the station in a south-easterly direction, he will enter the town of Malacca. Jinrikishas are available. Along its streets stand long rows of box-like Chinese houses, painted in various colours. The streets are mostly narrow, and the two important ones, Jonker Street and Heeren Street, run parallel with the coast line. In the latter street are many rich Chinese houses.

On the eastern side of the Malacca River stands the Stadthaus, which was originally a fort built by the Dutch, but which now houses the government of Malacca. Alongside the Stadthaus some ancient Portuguese coats of arms are carved in stone on the wall and also the figure of Makasa, a monster in Hindu mythology, which shows that it was built in the age when the town was under Hindu influence, that is before 1403. The Christian church built by the Dutch in 1750 contains a great deal of old silver-ware, which is open to the visitor's inspection on payment of a small admission fee.

From the wharf can be seen Pulau (island) Upeh, Pulau Jawa, Pulau Besar, Pulau Bureng, and other islands lying scattered on the sea. Near the jetty stands an obelisk, dedicated to the soldiers who fell in the battle of Sungei Ujong in 1875. Going along Banda Hilir Road, which runs eastward from the wharf, the visitor will see on the left a library, and farther E., on entering Ujong Pasir Road, he will see the prison of Banda Praya. Near it is St. John's Hill, on which once stood a fortress, but which is now noted only for its fine view of the surrounding country. On the W. rises Malacca Hill and far towards the E., Mt. Ophir, while below stretch out green fields and coco-palm groves. N. E. of the town is a low hill, called Bukit China, on which stood, when the town was under the control of the Portuguese, a church and a monastery, but which is now turned into a Chinese cemetery. Near the southern end of this hill is an old well, called 'Old Military Well,' the water of which is very pure and is in demand among the inhabitants of the town, even at the price of so much a pail. On the way back to the town from Bukit China, via Bunga Raya Road, which runs along the Malacca River, are St. Peter's Church and also a ruined church now called San Lourenço. Beyond the echoes of the town clamour, there stands an empty church, now called Nosa Senhora da Annunciada, noted for its former glory. According to the inscription records, the body of Saint François Xavier, S. J. once lay here, before it was removed to Goa in 1553.

In the vicinity of this town there are many pleasant drives, but the most attractive is Tanjong Kling, 7 m. N.W. of the town. There is a government bungalow, where the visitor may stay overnight with the permission of the Resident-Collector. It is equipped with everything except daily provisions. The visitor may enjoy sea-bathing here, if he feels so inclined.

Malacca. The state is 42 m. long and from 8 to 25 m. wide and is ruled

by a British Resident, subordinate to the one in Singapore. It has a population of 130,800, and its trade is restricted to Singapore and other parts of the Peninsula. Overshadowed by Singapore and Penang, its commercial activity is at present almost negligible; but the place is not only historically interesting, but interesting also for hunters and botanists. Being situated near the equator, its climate is hot and humid. For all that, Malacca has the reputation of being one of the healthy spots in the Peninsula.

The geological formation is mostly granitic, except on the plain, which consists of alluvial deposits. The country is full of small valleys and low hills. Its highest mountain is Ledang, but even this is only 4,400 ft. above the sea-level, not half as high as the mountains of Java and Sumatra.

Its mineral products are iron, gold, and tin. Once it was noted for its mining prospects, and in 1857 its gold output amounted to 1,500 ounces, while its tin product was also appreciably great; but at present, owing to the increasing number of Chinese miners, the returns of this industry seem to be gradually diminishing, although it is still run on a paying basis.

When it was a Portuguese territory, the country was thinly populated and tigers roamed over it in great numbers. At present they are rather scarce. Other animals of this region are nine species of quadrumana, black leopards, wild cats, viverridæ, elephants, one-horned rhinoceroses, tapirs, six species of deer, and two of wild oxen, snakes, lizards, and crocodiles.

Coming back from Malacca to Tampin and going farther N. the train approaches Rembau Valley, the scenery of which is unsurpassed by any in the Peninsula. Rembau Station (186 m.) is the third station from Tampin and is situated about in the centre of the state of Negri Sembilan. All its surrounding regions are covered either with orchards or with rice-fields. All crops are beautifully cultivated and especially attractive are the rubber plantations neatly set out around hills or along streams. Such painstaking care would hardly be exercised merely from commercial motives and the peculiar reason is that the inhabitants of these regions have a certain traditional attachment to the soil and cultivate it with a sort of religious piety to their ancestors, whose neat habits they inherit. Going farther N. past two or three stations, the train comes to Perhentian Tinggi (193 m.), noted for the extensive rubber plantations in its vicinity. Farther N. the rubber plantations disappear and, instead, tracts of tin ore can be seen scattered here and there. The next station is Seremban (201 m., with a rest-house—room $1,50, and board $2.00). This town is the capital of Negri Sembilan and is built on an extensive vein of ore. Its ground is hilly, and the residences appear clustered on the undulating surface as in Kuala Lumpur; but, compared with the latter, the scene is on a much smaller scale and less beautiful. In fact, the town has nothing to offer in the way of natural scenery and its people pride themselves only on its educational and other administrative system, which are so thorough that they exemplify the best qualities possessed by the Malays.

A branch line starts from this point and at the extreme end of it is Port Dickson (with a rest-house). It is a health resort with a sandy beach, a rare thing on the western coast. Its natural scenery is very beautiful, so much so that it is always mentioned together with Mount Lavinia near Colombo. From Seremban the distance is 25 m., covered in about an hour. The water of the port is some 36 ft. deep and it affords a good refuge to storm-buffeted ships.

The State of Negri Sembilan is divided into the five districts of Seremban, the coast, Jelebu, Kuala Pilah, and Tampin. The office of the British Resident is at Seremban. In 1895, Sungei Ujong and Jelebu were included within its administrative sphere. According to the census of 1913, the total population of the state was 137,800, of which about five hundred were Europeans. In its northern mountainous regions, Sungei Ujong and Jelebu, cocoa and coffee are the main products, and other tropical fruit trees will no doubt do well. In its plain regions towards the coast, tapioca, coffee, and cocoa were once extensively grown, but, since the beginning of rubber-planting, the cultivation of other crops has gradually declined.

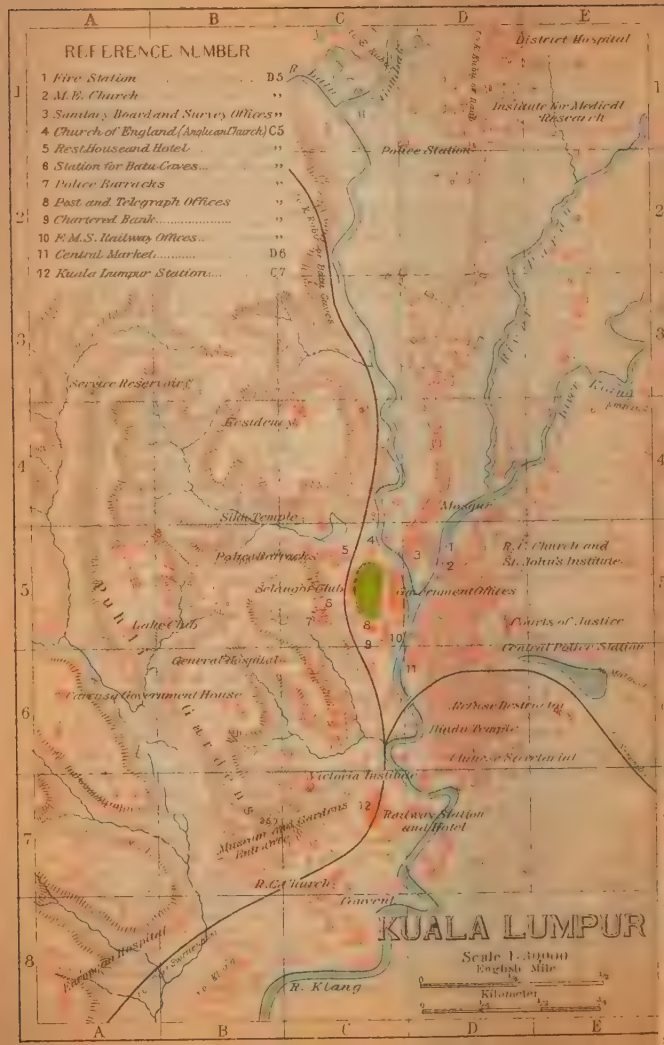
Of its agricultural products rubber occupies the first place. There are 140 plantations having the total area of 85,806 acres, and the amount produced in 1913 was 3,340 tons. There are also 32,000 acres of rice-field, 20,595 acres of cocoa, and 3,500 acres of gambier.

Its mining area comprises 19,911 acres, and tin is the most important mineral product. In 1913 the total amount of tin produced in the state was 31,658 piculs valued at $3,152,248. The amount of wolfram was 2,196 piculs and that of gold was 50 ounces.

Seremban to Kuala Pilah. To go to Kuala Pilah from Seremban by train one has to come back to Gemas and thence go round via Bahau (161 m. from Singapore). It will, therefore, be better to take an automobile (which can be hired in front of the station) and go direct—the distance covering 25 m. The road runs in an E. and W. direction through Bukit Putus Pass, noted as the most primitive part of the state. Great forests, untouched by the axe, cover the entire region, which is full of hills and valleys and presents all sorts of whimsical geological aspects. At a distance of about 20 m. from Seremban is the village of Terachi. Turning to the right from Terachi and proceeding for about 5 m., one comes to Sri Menanti, where is the palace of the old sultan, H. H. the Yam Tuan, an exquisite model of Malay architecture. Coming back to Terachi and continuing along the main road for about 4 m., one comes to Kuala Pilah.

Riding farther N. from Seremban on the train bound for Kuala Lumpur, one will pass through a region as yet undeveloped and full of low hills covered with lalang; but as the train nears Labu (209 m.) and Kajang (230 m.), many beautiful rubber plantations again come in view,—that of Kajang being specially noteworthy for its splendid care and growth. Here one is on the border line of the Selangor, and Kajang is the centre of the rubber plantations of this region. Going farther N., one will pass through Serdang (236 m.) and Salak South, where tin and brick industries are predominant. The next great station is Kuala Lumpur (246 m.).

The State of Selangor has an area of 3,200 sq. m. and is divided into six districts: (1) Kuala Lumpur, (2) Klang, (3) Kuala Langat, (4) Kuala Selangor, (5) Ulu Langat, and (6) Ulu Selangor. The state is governed by its Sultan aided by the British Resident and State Council. Kuala Lumpur, situated about in the centre of the state, is the seat of government. The district of Kuala Lumpur is also noted for its wealth of tin-ore. Kuala Langat is an agricultural district and contains the Sultan's residential palace. Kuala Selangor is the most important fishing district in the state. Ulu Langat borders on Negri Sembilan and is known as a tin-producing district. Ulu Selangor is also noted for the production of tin, but this industry is not yet fully developed in this district. It adjoins Perak. Each district is administered by European district officer, aided by several native chieftains. More than half of its inhabitants are Chinese, and their influence is unshakeable.


REFERENCE NUMBER
1 Fire Station D5
2 M.E. Church ,,
3 Sanitary Board and Survey Offices ,,
4 Church of England (Anglican Church) C5
5 Rest House and Hotel ,,
6 Station for Batu Caves ,,
7 Police Barracks ,,
8 Post and Telegraph Offices ,,
9 Chartered Bank ,,
10 F.M.S. Railway Offices ,,
11 Central Market D6
12 Kuala Lumpur Station C7
District Hospital
Institute for Medical Research
Police Station
Service Reservoir
Residency
Sikh Temple
Mosque
R.C. Church and St. John's Institute
Police Barracks
Selangor Club
Government Offices
Courts of Justice
Central Police Station
Lake Club
General Hospital
Carcosa Government House
Refuse Destructor
Hindu Temple
Chinese Secretariat
Victoria Institute
Railway Station and Hotel
Museum and Gardens Entrance
R.C. Church
Convent
European Hospital
R. Klang
KUALA LUMPUR
Scale 1:30,000
English Mile
Kilometer

Its products are more or less the same as those of other states, namely tin, rubber, hides, copra, tapioca, coffee, rattan, etc. Its chief imports are opium, salt, liquor, dried and salted fish, rice, tobacco, and tea. A considerable import duty is levied on opium and liquor. The most important agricultural product is rubber. According to the report of 1913, the total area of rubber plantations was 208,714 acres. There are also 38,708 acres of coconuts, 10,045 acres of coffee, and 6,560 acres of rice. The total amount of rubber produced in 1913 was 10,110 tons. The free immigration of Hindoo coolies recently permitted has greatly aided the development of this and other industries by supplying them with cheap labour.

The land leased for the mining of tin amounts to 71,296 acres, and the annual amount of tin and tin-ore produced in the state is 258,825 piculs, the annual tax on which is $3,500,000, or about 14 per cent of the total value.

There is also a coal-producing region called Rawang Coal-field. It has a shaft 306 ft. deep, and a great future is expected of this industry.

Between this state and the British Straits Settlements is a regular steamship service. A Carriage road runs from Kuala Lumpur to the border lines of Perak, Negri Sembilan, and Pahang. Post, telegraph, and telephone offices can be found in all important cities and villages of the state, and telegraph service to other states is installed.

Kuala Lumpur.

Arrival. 246 m. from Singapore, reached in about 12 hours by a through train. 243 m. from Penang, reached in about 10½ hours. Since all passengers travelling on the through train between Singapore and Penang have to stop at this station 1¼ hrs. when going up (that is, from Singapore to Penang) and 2 hrs. when going down (that is, from Penang to Singapore), they have the chance not only to dine and make their toilet (all the necessary equipments for the purpose being provided in the station), but also to make a short excursion thro gh this so-called 'Garden City.' To see its most important places will take about thirty-five minutes by rikisha (distance 2½ m. and *fare* not over 50 cents). By taking a more expensive means of communication, such as an automobile or a horse carriage, this trip can be accomplished in a much shorter time. Those who come from the coast can reach it easily by taking the branch railway between it and Port Swettenham (distance 27 m. covered in 1¼ hrs.). **Motor cars,** hackney carriages, and jinrikishas can be hired at any time in front of the station.

Hotels and Restaurants: Station Hotel upstairs in the station building; equipped to accommodate both transient and stop-over guests; board and residence per day $6.00; room and attendance only, $2.75 and upwards; meal tariff: $0.75 for breakfast, $1.00 for luncheon, $1.50 for dinner (supper). Grand Oriental Hotel, Empire Hotel, and Rest-house are all situated near the station of the Batu Cave line, about ¾ m. from the main station.

General Description of the City. Kuala Lumpur is situated about half way between Singapore and Penang. It is the greatest and the most beautiful city in the Peninsula and is not only the chief city of the state of Selangor, but is the capital of the Federated Malay States. It is surrounded on three sides by an extensive plain, with low green hills rising here and there, and through the city runs the Klang River from N. to S. dividing it into two parts. The eastern half, called 'Native Town' or 'Asiatic Side,' is its business district and packed full of Chinese and Malay shops and houses. The western half, called 'European Quarter' or 'Garden City,' is a beautiful residential and official district, with many beautiful gardens and magnificent public buildings, among which are the park,

famous for its wealth of tropical plants and a beautiful lake, the museum, noted for its rare collections of birds and historical materials, and various clubs.

Most of the important streets are paved with red laterite (which is a unique feature of this region) and laid out in modern style. The construction is well adapted to local atmospheric conditions, since it does not reflect the sun's rays so much as the ordinary paved road. In addition, the streets are shaded by thick trees, such as American silk-trees, which are planted in rows on both sides of the street.

The centre of the city is near the corner of Damansara Road, about one mile N. from the station of the main line, and there are situated the government of the Federated Malay States, the various buildings of the state government, the post and telegraph office, Chartered Bank, the head office of the Federated Malay States Railways, Selangor Club, and other public institutions, as well as a cricket ground called Padang. Not far from here, beside the main railway, is the station of the Batu Cave Line. Farther N. of it, where a road runs in an E. and W. direction, are hotels, the rest-house, and also the Anglican Church. As one looks from here south-westwards towards the park, one will be enchanted by the beauty of the scenery, which shows a modern city enveloped in the at once gorgeous and soft setting of the tropical country, equally enjoyable in the early morning when the sun's rays steal over the sleeping hillside, or in the evening when the setting sun casts its last brilliant glow over the dim trees and houses.

Going E. along the road that runs from Damansara Cross and crossing the Klang River, one enters 'Native Town.' Going a little farther E. and turning to the right down the next cross road, one will come to Sultan Street Station, from which trains leave for Pudu

Native Houses.

(2 m.) and Ampang (6 m.), villages in the eastern suburb of the city. In front of the station is Central Market, and to the S. of it are the Hindoo Church, the Roman Catholic Church and its adjunct, St. John's Institute, the Court House, General Police Station, Chinese Secretariat, and other public buildings.

It is said that in the year 1872 this was still so wild a place that 'Capitan China' sought to obtain the head of his enemy by putting a price on it. At that time, his now insignificant residence was considered a magnificent one, and the streets of the city consisted of only two small roads through the camps of native tin-miners. Since then it has developed with marvellous rapidity, until now it has a population of 70,000 and is the seat of the government of the Federated Malay States, as well as a prosperous commercial and industrial centre of the whole region. Its commerce is closely related to that of Port Swettenham at the mouth of the Klang River.

Experimental Station. This is situated on a hill along Swettenham Road in a suburb of the city and has an area of 146 acres. Rubber, camphor, coffee, and other productive trees are planted on its undulating ground for experimental purposes. The station also undertakes the work of exterminating the diseases and insects attacking these plants.

Batu Caves. This spot is noted for the rare beauty of its scenery. It is connected by a branch line with the city and is reached in about 1½ hrs. The train runs four times a day. When going from the centre of the city, it will be more convenient to take the train from a wayside station on the Padang. The road runs mostly through rubber groves. At about halfway is a large iron factory of the Federated Malay States Railways, and at the end, near Batu Caves, is a quarry.

Getting off at the terminal station, one will see a great rubber grove of 2,000 acres, belonging to the Rubber Plantation Company of Batu Caves. Going farther down through the grove, one will come to a big, white, rocky hill, which is called the 'Everlasting Starlit Rocks' by the Chinese, for it appears so high that it seems to be in everlasting communication with the stars. In the middle of the hill there are two big caves, one of which is said to be 'bottomless.' It is dark and inhabited by thousands of bats the intolerable smell of which rises from below, as if from the very depth of Hades. It is said that a man once went down the hole to a depth of a mile and a half, but nobody has gone any deeper. The other cave is more than 100 feet high, and its spacious interior, with innumerable stalactites like so many giant bamboo sprouts protruding from the ceiling, may accommodate several hundred people. Its mouth is fringed by orchids and other plants and flowers, which add a touch of colour to the surrounding bushes. On the rocky walls are inscribed in various languages many eulogies, of which the above-mentioned Chinese epithet is the most strikingly original.

Port Swettenham (with a government rest-house). This is situated at the confluence of the Klang and the Langat, 27 m. S. W. of Kuala Lumpur along the branch line (over one hour by train).

The port was completed and opened in 1901 and is equipped with one passenger wharf and three freight wharves. Though it is only 1½ m. long and ¼ m. wide, its water is deep, measuring 30 ft. even at ebb tide. It is the regular port of call on each voyage of the P. & O. intermediate steamers, and on every other voyage of the Bombay Line of the Ōsaka Shōsen Kaisha. In 1909 the total tonnage of the steamers anchored at this port reached 800,000 tons, and the annual volume of its trade rose to £5,000,000. In the town are a great many mercantile houses engaged in shipping and trading business. There are also a Tamil immigrants' boarding-house and a few other buildings of a more or less public character. Though at present it can offer no special object of interest for tourists, a great future is expected of it. Its vicinity is mostly occupied by mangrove swamps. The rubber produced in the Kuala Lumpur region is exported through this port, and in 1909 the amount reached 1,000,000 lb. Through this port also jinrikishas and other Japanese goods are distributed to the interior of the Peninsula.

Five miles N. E. of this place is a town called Klang, noted for a long time as a coffee-producing district and also once known as the terminal of the branch line. Since the extension of the line to Port Swettenham, and the decline of the coffee-raising business owing to overproduction, it has lost all its significance and is now remembered merely as an old site of the palace of the Sultan of Selangor. Otherwise the town is converted into a rubber plantation.

From Connaught Bridge Junction, two miles E. of Klang (19 m. from Kuala Lumpur), runs another branch line in a N. W. direction to Kuala Selangor (with a government rest-house), 30 m. from the junction point and reached in 1¾ hrs. The entire region along the line is a prosperous rubber-producing district.

Dusun Tua. This is a quiet spot with mineral springs, situated 16 m. E. of Kuala Lumpur, up the Langat River, and can be reached by a road branching off about halfway along Kajang Road. Surrounded on its N. and E. sides by Mt. Gadoh (4,890 ft.) and Mt. Besar (4,800 ft.), and on the other sides by the limpid stream of the Langat, lies a beautiful spot adorned with the shrubs and trees of the hillside, and on this spot stands the Dusun Tua Bungalow. Its mineral spring water contains salt and sulphur and can be used both for drinking and bathing purposes. Since no mining is allowed from here up, the water of the stream is exceptionally limpid.

Kuala Lumpur—Taiping. The region extending for about sixty miles N. of Kuala Lumpur to Tanjong Malim (300 m. from Singapore) is Ulu Selangor District, noted for the irregular and precipitous contour of the land, cut through here and there by streams and hemmed in on its N. E. side, where it borders on the state of Penang, by a high mountain range, measuring from 4,000 to 6,000 ft. high. Along the beautiful base of these mountains stretch groves of palm, rubber, and bamboo, with a number of tiny native villages

nestling among them. At a distance of about 40 m. from Kuala Lumpur is Kuala Kubu (285 m. from Singapore).

Kuala Kubu to Kuala Lipis.—Kuala Kubu is the gateway that leads from the middle part of the Peninsula to the state of Pahang. From here to the capital of Pahang, Kuala Lipis (83 m.), via Tras (36 m.), Raub (44½ m.), and other towns, there runs a carriage road, on which is operated once a day from each end a motor-bus service to connect with the express train of the main line. (The bus carries 1st class passengers only, and the time required is from 7 to 7½ hrs.) Kuala Lipis (with a government rest-house) is situated at the junction of the two upper streams of the Pahang, the Lipis and the Jelai, and is the seat of government of the state. The road passes along the border line of the two states through the wild tropical forests. From Tras, a branch road runs southwards for 19 m. to Bentong (with a government rest-house), a small tin-mining village. Farther S., via Ginting Sempah Pass, a road runs back to Kuala Lumpur. Since the surrounding scenery is very beautiful, visitors to Kuala Lipis are wont to take this road on their return trip.

Kuala Kubu—Ipoh. Going N. on the main railway from Kuala Kubu, one will observe on the right Mt. Semangko (5,600 ft.) thickly covered with verdant forests. The train runs along its foot and across the stream of the Kerling, which joins the Selangor a little farther down. At about 20 m. from Kuala Kubu, it reaches Tanjong Malim (300 m. from Singapore), situated on the southern border of the state of Perak. The station has a beautiful garden, which irresistibly excites the admiration of passengers. The stream that runs near the station, dividing Selangor from Perak, is the River Bernam.

East of Tanjong Malim is Batang Padang District. Towards the E. of this district rises Mt. Ulu Liang (6,360 ft.), from which flow several streams, cutting across the railway line and all joining the Bernam. Going farther N. past the Slim River, one of these streams, the train enters Trolak Forest Reserve, an extensive tract, several miles long, of wild rubber plants, called Getak Rambong (*Ficus elastica*). As the wind sweeps through the forest shaking the overhanging branches and turning up the golden under-surfaces of the thick, wide leaves, the whole scene resembles a wavy sea lit by brilliant sunshine. Before the introduction of the rubber industry, the cutting down of these trees by the natives was so common that hardly a single tree was allowed to grow to its full size. Now, however, alleys have been opened throughout the forest, and a warning against such a destructive practice is posted at every turn and corner of the ways.

Continuing past Sungkai and Bidor (villages situated by streams of the same names, branches of the Perak), the train comes out on to Tapah Road. From here a branch line runs westwards, at the end of which (18 m.) is Teluk Anson (with a government rest-house),

a commercial port near the mouth of the Perak. It is a regular port of call of the steamers passing between Singapore and Penang. It is also the agricultural centre of the surrounding regions. From the same point there also runs a road towards the E., and at a distance of six miles along this road is Tapah (with a government rest-house). There is a motor-bus service between the two points. Tapah is the mining and agricultural centre of Batang Padang District. The River Woh, a branch stream of the Perak, flows along one side, and towards its E. side rises Mt. Berembun, the highest peak in the peninsula, (8,790 ft.).

Going about nine miles farther N. from Tapah Road, the train reaches Temoh, whence a road runs eastwards to Chenderiang (with a government rest-house), a tin-producing district. There is a motor-bus service between the two. The region N. of Temoh lies along the River Kinta. The country is narrow and bare; it is known as.

Kinta Valley and is the greatest tin-producing district in the Peninsula. West of Kota Bharu and Batu Gajah, across the River Kinta, lies a long stretch of bare hills. These are the Tronoh tin-fields. At the opposite side of the line, a few miles away towards the E., is Gopeng (with a government rest-house), which is also noted for its tin industry. In fact, tin is produced at almost any place in this region, and Tronoh is the most famous of all. It is said that half the tin-output of the world is produced in the Malay Peninsula and that half of this comes from the state of Perak, and again that half of this half is produced from Tronoh. In other words, the amount of the tin produced in Kinta Valley is one-quarter of the entire output of the world, which is estimated at about 100,000 tons, and that of Tronoh is one-eighth of this amount. The tin industry, with all its modern equipments and methods, can, therefore, be best studied here.

Process of Tin Mining and Smelting.—The surface soil is excavated with picks and shovels until the vein is struck. In the state of Perak the vein is reached in three or four feet, while in Selemban it lies as deep as ten to thirteen feet. The thickness of the vein is generally from four to six inches. When the vein in struck, the red-coloured sand containing tin-ores is dug and scraped into a basket, which is carried by two coolies to the surface. There it is emptied into a wooden receptacle two feet wide and eight feet long. Then water is run into it and the contents are continuously stirred up with iron forks. The sand, being lighter than the tin-ore, flows out with the water leaving mostly tin-ores at the bottom. This process is repeated three and four times, and the residue is then carried to the factory, where experienced workers wash it again in a metal vessel. After all these processes, the remaining sand generally contains seventy per cent of tin-ore. This is finally taken to the smelter, where it is melted in a large kettle. As it melts, the molten metal drips from the holes in the bottom of the kettle into the mould set underneath. What is thus obtained is rough tin ready for the market.

Batu Gajah (with a government rest-house) is the finest residential district of this region and also contains the headquarters of the Kinta district. From here carriage roads run to all parts of the district. Coming back to the main line and going about ten miles farther N., the train reaches Ipoh.

Ipoh (376 m. The government rest-house stands on the station

road, and the Grand Hotel is situated on Batu Gajah Road, ½ m. S. of the station) is a town that has recently developed greatly as the commercial centre of the tin industry of Kinta Valley. The town spreads out on the E. side of the station and through its centre runs the Kinta River. Its ground slopes towards both sides, but its streets are regular. In the centre of the town stands the lofty Birch Memorial Clock Tower, dedicated to the first British Resident of Perak. On the W. side of the river are the Government Office, Post and Telegraph Office, and other official and mercantile buildings. At the S. E. corner is the People's Park, and on the E. side of the river are many Chinese shops and residences, and also Chinese theatres and cinematograph shows. Schools, churches, and clubs are generally situated in the suburbs of the city. The race-course and the golf club and other clubs are in the eastern suburb. There are also two tin smelters, one in the eastern and the other in the western suburb. The most interesting objects for the general tourist are, however, the Rock Temples and Marble Quarry.

Rock Temples: They are two in number, and the nearest one is at Mt. Chiroh, one mile N. of the town. It is a gigantic rock of greyish white with many holes and entwined by vines. In itself a natural temple of rare dignity, it has on its top a small Chinese edifice. The structure of the rock is similar to that of the Batu Caves near Kuala Lumpur. Marble Quarry is near it, but, though it is the more accessible and can be seen even from the train, it is by no means the finer of the two. The finer and much larger one is at Mt. Rapat, 3½ m. E. of the town. While making a tour of Kinta Valley, one can conveniently drive up to it, and if one climbs up to its top, one will find a great natural hole there, and standing by its side one can obtain an excellent bird's-eye-view of the valley. In its vicinity are mostly mining districts, and at a distance of about 3½ m. S. E. of it, across the Sungei Raia, is a mining village of the same name. Five miles from it as the crow flies is Gopeng. Turning to the right before reaching Gopeng, a road leads to Batu Gajah, a station along the main line, whence a road also leads to the Ipoh-Tronoh branch railway (15 m.). North of Ipoh, the main line runs through the high country pressing in along the left side of the Perak. From the train window one sees lofty mountains rising ridge after ridge in the overwhelming grandeur of their majestic beauty. From Sungei Siput Station the line bends gradually towards the W., and, crossing the Perak at Enggor, the train comes to Kuala Kangsar.

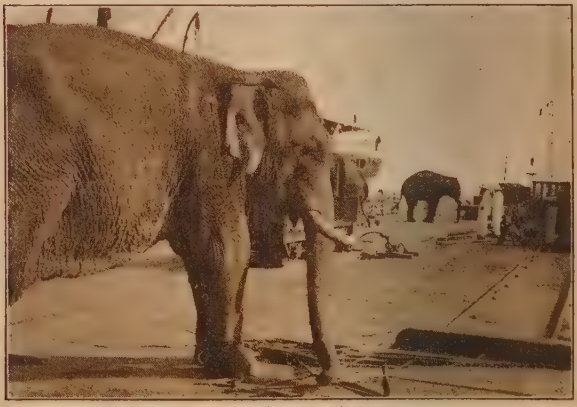
The State of Perak is situated on the western coast of the Peninsula and is bordered on the N. by Kedah and on the S. by Selangor. Its area is 6,580 acres and the length of its coast line 90 m. There are many streams in the state, and the Perak runs through its centre towards the S. and is navigable fairly far up in its upper course. Its branch streams, the Kinta, Batang Padang, Plus, and others, are nearly all deep enough to let freight boats pass through the greater part of their course.

Its climate is good, the average temperature being 60° Fahr. during the night and 90° Fahr. during the day. The amount of rainfall varies in different localities but it averages 90 inches. There is no well-marked rainy season, but October,

November, and December are considered to be the most rainy months, and March, June, and July the driest months. The government is at Taiping, reached in three hours by train from Penang. From Taiping the train takes one hour to Kuala Kangsar, where at Bukit Chandan is the residence of the Sultan of the State. The state became a British protectorate in 1874 and has since been administered under the supervision of the British Resident The Council of State is composed of the Sultan and the highest Malay officials, the British Resident and his secretary, one unofficial English, and four Chinese, committees.

The vicinity of Ipoh and the Kinta district are the famous tin-producing districts of the peninsula. This industry is now carried on by the most developed scientific method. Once Larut was noted also as a tin-producing district, but it is fast declining According to the report of 1913, the total amount of tin produced in the state was 493,967 piculs, and its value $49,077,500. Recently the rubber industry has gradually increased in this state, and there are several extensive plantations in Matang a sub-district of Larut. Along its coast the fishing industry is prosperous. In 1913 the total area of rubber plantations was 300,114 acres, of which 146,649 acres are merely prepared and 48,765 acres are already producing. The amount of production was 7,660 tons. In the same year the total area of coconut groves was 90,650 acres

The northern part of the state, called Upper Perak, is as yet little developed. But, since the F.M.S. Railway, which runs through the state and has also a branch line to an important port, Teluk Anson, is already in full operation, its rapid future development is expected. There is also a frequent steamship service between it and Singapore and Penang. The total mileage of the roads of the state is over 750 m. Telegraph and telephone services extend throughout the state. In 1913 the total population was 531,000.



ELEPHANTS AWAITING SHIPMENT.

Kuala Kangsar (411 m. from Singapore; with a government rest-house) is situated at the junction of the Kangsar with the Perak. It is a quiet city, shaded everywhere by coconut-palms and contains the residential places of the Sultan of Perak, and also the villa of the British High Commissioner. The latter is a modern building and stands on a high bluff, which commands an extensive view of

the great Perak. In a corner of its grounds is the Malay Council Chamber, a wooden structure. There are three palaces of the Sultan in the city, one of which is cared for by the government of the Federated Malay States. All are stone structures and some are built after the style of French châteaux. There is also the Malay Residential College, a school designed on the model of the British public school and intended for the education of the children of the upper class Malays. It is attended by students from all parts of the Peninsula.

River Trips on the Perak.—The Perak rises in the mountains on the northern border of the state and flows from N. to S. through its entire length, furnishing excellent communication facilities to all the cities and villages along its course. A trip on this river is interesting, and Kuala Kangsar is perhaps the best starting-point. North of it there are such places as Grit, Kuala Kenering, and Lenggong. The tourist may start from any one of these, but down to Kuala Kangsar the stream is rough and navigable only by a bamboo raft, which may be an exciting adventure, but is rather uncomfortable. From Kuala Kangsar to Teluk Anson, for a distance of about seventy miles, the stream is wide and deep and navigable by a house-boat (for particulars see P. 279). During the day the boat may be steered anywhere as suits the fancy of the tourist, and at night it may stay floating in mid-stream. Bathing is safe, except at certain spots where there are deep holes, which, however, can easily be detected. Farther down the stream crocodiles are met with, but, if the passenger heeds the warning of the Malay boatman, no danger need be apprehended. During the dry season, between March and October, snipe and teal are found in abundance. They afford excellent shooting for sportsmen, and Parit Bota and Pulau Tiga are the usual stages for them. The boat finally reaches Teluk Anson, whence the journey can be resumed either by steamer or train.

Menggelunchor is a Malay word, signifying a certain water diversion peculiar to this locality. It is commonly practised in a pond in a bamboo forest about three miles from Kuala Kangsar. A stream of water, flowing over a slightly inclined, stony bed, descends into the pond like a gentle cataract. The player, dressed in a bathing-suit, sits on a mat made of palm-leaves and slides down the incline into the pond. With the English, this sport is increasing in popularity every year. From Kuala Kangsar to the forest there runs a trunk road, available either for gharries or motor-cars; the forest path can be travelled on the back of an elephant. Elephants are abundant in the vicinity, and it is by no means difficult to engage several of them at a time. Riding on an elephant is in itself an experience that can be enjoyed only in a tropical country like this.

Between Kuala Kangsar and Taiping (18 m. by the railway; 22 m. by Trunk Road) is Bukit Gantang Pass. The road goes round it, but the railway traverses the mountain through several

tunnels. Each succeeding scene is beautiful, but the finest of all is the view of Mt. Pondok, near Padang Rengas. At the foot of this mountain, among rice-fields, stands a limestone hill, 2,000 ft. high, honeycombed with many holes and entwined by creeping vines, resembling those seen near Ipoh and Kuala Lumpur. Bukit Gantang has long been known as a haunt of tigers, and ever since the building of the railway have many thrilling stories been told about straying tigers.

Taiping (429 m. from Singapore and 60 m. from Penang; with a government rest house), as the headquarters of the British administration in northern Perak, is the seat of the British Resident. It is situated at the foot of Larut Hills, between Gugop Valley and Batu Tugoh Valley. Not only is the surrounding scenery beautiful, but the city itself is exquisitely built and is considered the neatest city in the Peninsula.

Between Bukit Gantang and Ayer Kuning the railway gradually turns northwards, and, as the train crosses the bridge of Sungei Kota, the city of Taiping soon appears on its E. side. On the W. side there runs a branch line, which goes to Port Weld (8 m. distant and reached in ½ hr.).

Going E. along Station Road for about half a mile, one comes to the heart of the city. The southern part of the city is a busy Chinese town, and the European district is in the N. Most of its official, school, and church buildings, and the post and telegraph office are situated in this latter district. Its streets are thickly planted with angsena trees, with some Para rubber mixed in here and there, so that they are shaded almost entirely by green foliage. Indeed, it is called 'the city of green leaves.'

The Park and Clubs.—The park lies to the E. of the city at a distance of about one mile. It is a large one and is beautifully planted with palms, bamboo, and clumps of feathery trees, and its hills and fountains are exquisitely arranged. In all respects it compares favourably with the parks of Singapore and Penang, and especially in the beauty of its fountains is unsurpassed anywhere in the Peninsula. The Recreation Ground, the centre of the English social life in the city, Perak Club, and New Club are all situated near this park. The ground that stretches from outside the park S. E. to the foot of the mountain range is the reserve of *gutta-percha*, and N. of this forest to Larut Hills is a series of young forests. About half a mile N. E. of the park is a race-course, and adjoining it are a polo-ground and a rifle-range.

The State Museum.—This is situated N. of the English Quarters at a distance of about 1½ m. Its whitewashed building stands facing the red brick prison, presenting a striking contrast. The museum is well equipped, much better than that of Kuala Lumpur. It has several good and well-arranged collections, and especially valuable is the collection of animals. There is also the gigantic skull of an elephant, which is said to have charged the

train, when it was first run in 1894, and wrecked it and himself in the encounter.

Other objects of interest are the British Residency, Church of England, King Edward School, Malay States Guides' Barracks, Roman Catholic Church, Sanitary Board and Railway Offices, Sikh Temple, and Girls' Normal School, all of which are situated in the English district. N. of the city is a reservoir, which draws its water from the great cataract of Larut Hills and keeps the city well supplied with drinking-water.

Larut Hills. E. of the city of Taiping rises a great mountain ridge, with several lofty peaks. Mentioned in order from the W. they are Maxwell's Hill (3,400 ft.), Birch's Hill (4,448 ft.), Caulfield's Hill (4,558 ft.), and others. Of these the highest is Mt. Hijiau (4,750 ft.), in the extreme E., and the nearest to the city is Maxwell's Hill. The Larut Hills is the collective name of all these peaks. On Maxwell's Hill are the villa of the British Resident, a sanitarium, and a branch garden of the Federated Malay States Experimental Station, where various kinds of English vegetables and flowers are raised. The hill commands an excellent view of the surrounding country. From the centre of the city to its summit, the distance is about ten miles, and, though the road is rather rough, an average pedestrian can reach it in half a day. A sedan-chair may be hired for about $10.00. The starting point of the trip is about half a mile E. of the race-course. From here for about nine miles the road passes through the extensive tract of virgin forests. It looks as though the whole country is shaded by their thick and luxuriant foliage, and limpid streams flow musically over moss-covered rocks. Here and there the scenery is delicately enlivened by the beautiful colours of the wild flowers blooming about the rocks and trees and by the wayside. Quite suddenly, a white mist may envelop the whole scene, and then it as suddenly clears off. Sometimes it may be followed by a shower. In any case, the traveller must be provided with a rain-coat. At an elevation of about 2,000 ft. is a tea garden with a tea-house, laid out in a forest. Farther up, at an elevation of about 3,000 ft., is a coconut grove, containing several varieties of this tree. Especially fine is the fan-palm which grows as tall as ten feet. Port Weld (originally called Kuala Sapetang) is at the terminal point of the branch line (8 m. long) starting from Taiping. This line was the first railway built in the Peninsula and was originally intended for the transportation of timber to the coast, but Port Weld is now known merely as a local port. S. of it, four miles distant, is a village called Matang, from which a road leads to Taiping, and along this road is an old Malay castle with brick towers, now sadly dilapidated.

Taiping—Penang.

Bugop Valley. Going N. by the railway on the main road, the traveller will soon see on the E. side Scott's Hill (650 ft.).

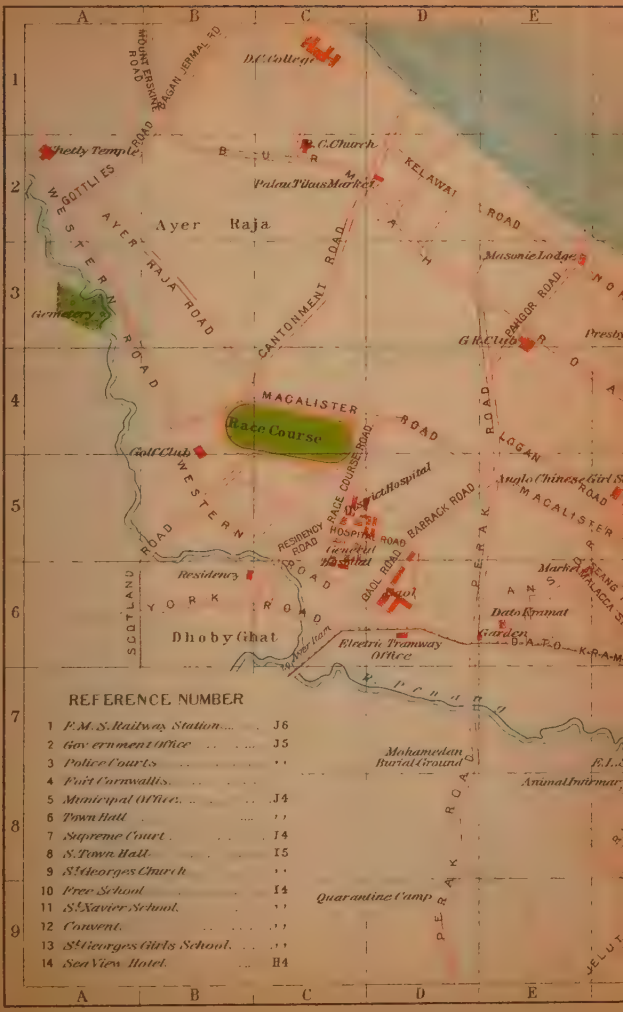
The hilly region extending north-eastwards is Gugop Valley, through which another road runs between Taiping and Kamunting. The road is not only an excellent motor-road, but is rich in beautiful scenery. About half-way along it are a Chinese temple and a Malay shrine, called 'Kramat Toh Bidan.' They stand on hills facing each other, and the latter is lower, but is surrounded by finer scenery.

Krian Road. Between Kamunting and Krian are two great open tin-mines, perhaps the greatest in the world, both of which are worked by the old-fashioned Chinese method. The number of Chinese coolies employed here is said never to be less than 3,000. From the train window one can see them at work. Gangs of them are scraping out tin-ore, and other gangs are carrying it from right to left in stretcher-like receptacles.

North of Krian Road (436 m.), the railway bends gradually in a N. W. direction, skirting the Semanggol range (1,254 ft.), while the road runs straight over Semanggol Pass, until it joins the trunk road that runs along the coast. At Bangan Serai it once more meets with the railway. This region is called Krian District; it is the north-western border of Perak, and noted for the production of rice. The entire district is a series of rice-fields, and, as there are no large rivers within its borders, the water of the Kurau and the Merah is reserved for the purpose of irrigation, and it is said that the water thus reserved is sufficient to irrigate 70,000 acres of rice-fields throughout the year.

Province Wellesley. N. of Bagan Serai the railway runs straight to Parit Buntar, where it crosses the border line of the Federated Malay States and enters Province Wellesley, a British territory ceded in 1798 from the state of Kedah. It is 45 m. long, 8 m. wide, and has the total area of 270 square miles. With its opposite island, Penang, it is an important strategical district. The railway runs northwards through its centre, between the sea-coast on the W. and the verdant main mountain range on the E., to Bukit Mertajam (482 m.), whence a branch line runs farther N. for Siam. (The line is already open as far up as Alor Star, and there is a train service twice daily between it and Penang.) The main line turns there towards the coast and terminates at Prai (489 m.). Opposite it across the water is Penang, to which the line is connected by the steam ferry.

The State of Kedah is situated along the N. W. coast of the Peninsula and has the total area of over 3,000 sq. m. Its N. E. border is shut in by a mountain range, but in the S. and W. parts of the country there are fertile plains. Its main products now are rice and padi, but rubber and coconuts are promising future products. Its capital is Alor Star, which is the present terminal point of the railway going towards Siam. It has excellent postal, telegraphic, and telephonic systems. There is a long-distance telephone service to Penang. According to the census of 1911, the total population of the state was 245,680, of which 195,400 were Malays, 33,750 Chinese, and the rest Hindoos and Europeans. In 1913, the total amount of tin produced in the state was 864 tons, the total export value of rubber $1,323,600, and that of coconut, betelnut and agricultural products was $235,000.



A
B
C
D
E
1
2
3
4
5
6
7
8
9
D.C. College
Chetly Temple
B.C. Church
Palau Tikus Market
KELAWAI ROAD
Ayer Raja
AYER RAJA ROAD
WESTERN ROAD
CANTONMENT ROAD
Masonic Lodge
PANGOR ROAD
G.R.Club
Presby
Gemetery
MACALISTER ROAD
Race Course
Golf Club
RACE COURSE ROAD
Strict Hospital
BARRACK ROAD
RESIDENCY ROAD
HOSPITAL ROAD
General Hospital
GAOL ROAD
Gaol
Residency
YORK ROAD
SCOTLAND ROAD
Dhoby Ghat
Electric Tramway Office
Market
Dato Kramat
Garden
DATO KRAMAT
PERAK ROAD
Mohamedan Burial Ground
Animal Infirmary
Quarantine Camp
REFERENCE NUMBER
1 F.M.S. Railway Station ... J6
2 Government Office ... J5
3 Police Courts ... ,,
4 Fort Cornwallis ...
5 Municipal Office ... J4
6 Town Hall ... ,,
7 Supreme Court ... I4
8 S. Town Hall ... I5
9 St. Georges Church ... ,,
10 Free School ... I4
11 St. Xavier School ... ,,
12 Convent ... ,,
13 St. Georges Girls School ... ,,
14 Sea View Hotel ... H4

Scale 1:150,000
English Mile
Kilometer
Mt Olivia
Reservoir
Waterfall Gardens
D.C. College
Crag Hotel
Cheah Temple
Ravenswood
Highlands
1793 ft
The Crag
2066 ft
Penang Hill
Masonic Lodge
E.& O. Hotel
Bare Cottage
District Hospital
Batu Gantong Cemetery
PENANG
(GEORGETOWN)
Rifle Range
Kampong Bharu
Quarantine Camp
Rice Mill
Kerosine Oil Store
Septic Tank
Jelutong
E.E. Telegraph
Penang Club
E.& O. Hotel
Farquhar
Argyle
Hutton Lane
Larut Road
Esplanade
Swettenham Pier
Victoria Pier
Church St. Float Pier
Railway Jetty
Detective Sta.
Chulia
Market
Masjid
Chin Chew Kongsi
Chin Chew Kongsi Market
Chin Chew Kongsi Masjid
Chin Chew Kongsi Temple
Chin Chew Kongsi Theatre
Chin Chew Kongsi Hospital
Chin Chew Kongsi Police Station
Chin Chew Kongsi Fire Brigade Sta.
Chin Chew Kongsi Railway Jetty
Chin Chew Kongsi Church St. Float Pier
Chin Chew Kongsi Victoria Pier
Chin Chew Kongsi Swettenham Pier
Chin Chew Kongsi Esplanade
Chin Chew Kongsi Farquhar
Chin Chew Kongsi Argyle
Chin Chew Kongsi Hutton Lane
Chin Chew Kongsi Larut Road
Chin Chew Kongsi Penang Club
Chin Chew Kongsi E.E. Telegraph
Chin Chew Kongsi Government Store
Chin Chew Kongsi Destructor
Chin Chew Kongsi Eastern Smelting Co.
Chin Chew Kongsi Proposed Line of Tramway
Chin Chew Kongsi Abdullah
Chin Chew Kongsi Magazine Road
Chin Chew Kongsi Noordin Street
Chin Chew Kongsi Presgrave Street
Chin Chew Kongsi Love Lane
Chin Chew Kongsi Light Street
Chin Chew Kongsi Beach Street
Chin Chew Kongsi Victoria Street
Chin Chew Kongsi Armenian Street
Chin Chew Kongsi Carnarvon Street
Chin Chew Kongsi Penang Road
Chin Chew Kongsi Leith Street
Chin Chew Kongsi Transit Road
Chin Chew Kongsi Macalister Lane
Chin Chew Kongsi Madras Lane
Chin Chew Kongsi Siti Lane
Chin Chew Kongsi Love Hall Road
Chin Chew Kongsi Noordin Lane
Chin Chew Kongsi Prangin Road
Chin Chew Kongsi Burmah Road
Chin Chew Kongsi Minor Road
Chin Chew Kongsi Lyma Road
Chin Chew Kongsi Axeb Road
Chin Chew Kongsi Jelutong Road
Chin Chew Kongsi Chinese Temple
Chin Chew Kongsi Ayer Itam Intake
Chin Chew Kongsi Ayer Itam Village
Chin Chew Kongsi Rifle Range
Chin Chew Kongsi Jelutong
Chin Chew Kongsi Septic Tank
Chin Chew Kongsi Kerosine Oil Store
Chin Chew Kongsi Rice Mill
Chin Chew Kongsi Quarantine Camp
Chin Chew Kongsi Kampong Bharu
Chin Chew Kongsi Batu Gantong Cemetery
Chin Chew Kongsi Bare Cottage
Chin Chew Kongsi District Hospital
Chin Chew Kongsi Masonic Lodge
Chin Chew Kongsi E.& O. Hotel
Chin Chew Kongsi Penang
Chin Chew Kongsi Ravenswood
Chin Chew Kongsi Cheah Temple
Chin Chew Kongsi Crag Hotel
Chin Chew Kongsi Reservoir
Chin Chew Kongsi Waterfall Gardens
Chin Chew Kongsi Mt Olivia
Chin Chew Kongsi D.C. College
PENANG
Scale 1:30,000
English Mile
Kilometer
G
H
I
J
K

Route XXIV. Penang.

Arrival: Most steamers anchor by Swettenham Pier, except those of the P. & O. S. N. Co., N. Y. K., and others running between Europe and the Orient, which have their prescribed anchorages on the water. The first and second class passengers are carried ashore by the launch of the agent of the company. Others have to depend on a hired boat. Those arriving by train will be conveyed by the railway ferry boat from Prai to the railway jetty on the opposite shore. Hotel porters will be found at the wharf, or on board the steamer as it anchors, or at the Prai Station. Baggage had better be entrusted to them, and then each person may take either a jinrikisha, or an automobile, or a hackney carriage, as he chooses. A jinrikisha is the cheapest, and, being plentiful, the most convenient, means of communication. In all other particulars, the hotel service can safely be relied upon.

Hotels: Eastern and Oriental Hotel (Pl. I 4), Farquhar Str., five minutes' ride from the wharf or the railway jetty, known as the largest hotel in city; *tariff*, $6.00 and up per day. Crag Hotel, situated at Penang Hills, about 4 m. from the wharf, and run as a branch of the E. & O. Hotel. Being built on a hill, it is said to be cool and pleasant. Besides these two, there are Runnymede Hotel, Sea-View Hotel, Hotel Norman (formerly Raffles Hotel) in Beach Str., and a few others.

General Description of Penang. The word Penang means Betelnut Island; but since it became a British territory, it has been called Prince of Wales Island. It lies opposite Prai on the western coast of the Peninsula, between 5° 15′ and 5° 30′ N. lat., is 15 m. long and from 5 to 9 m. wide, and has an area of 170 square miles. Its administrative sphere includes, besides the island, two provinces of the Peninsula, namely Province Wellesley (about 270 sq. m.) and Dindings (200 sq. m.), the total administrative area being about 580 sq. m., and the total population 287,935

Waterfall Garden, Penang.

(1914), of which 13,000 are Europeans and Americans and the rest are Asiatics and Eurasians.

The city, officially known as Georgetown, but commonly called Penang after the name of the island, is situated on its north-eastern headland. The shape of the city is triangular. Its eastern apex is Swettenham Pier and its N. and S. E. sides face the sea, the remaining side being hilly. The coast in a S. W. direction from Swettenham Pier is called Weld Quay. Here is transacted all the navigation business of the city, and off its coast lie anchored all sorts of large and small ships. Victoria Pier and the railway jetty are also on this coast. Landward along it lies the business quarter of the city, and at the head of the main street stands a tall clock-tower that can be seen conspicuously either from the sea or from the land.

Towards the N. W. coast from Swettenham Pier are Fort Cornwallis, Municipal Office, Town Hall, and other public buildings, such as churches and schools. The hotel quarter is also situated at a beautiful spot on this coast.

On the north-western coast of a suburb of the city is a bathing-place, called Tanjong Bunga, and landward of it rises a verdant hill, called Crag Hill (2,066 ft.). Nestling at the foot of this hill is the beautiful 'Waterfall Garden,' a cascade having been elaborately constructed by utilizing the water of the Penang. On the S. E. slope is Ayer Itam, where there is a famous Chinese temple well worth visiting.

History: Penang was the first British Colony in the Straits. In 1786, through the efforts of Captain Francis Light, acting on behalf of the East India Company, it was acquired from the Raja of Kedah for the annual tribute of $10,000 (some say it was only $6,000). Esplanade, at the back of Fort Cornwallis, is the memorable place where he first landed on this island. As the builder of Penang, his achievement is comparable to those of Albuquerque in Malacca and Stamford Raffles in Singapore. They are the three most brilliant stars in the history of the British East Indian Colony. Thirteen years later, that is in 1799, the opposite shore of this island, a part of the state of Kedah, now called Province Wellesley, was also acquired for Britain. Together, they form the northern gateway of the Straits. Thus strategically situated, Georgetown soon developed into a great commercial city. By its prosperity it overshadowed Malacca, and, as Singapore was then yet an unknown island, the name of Penang was supreme in the whole Straits. In 1806 it was promoted to the rank of a residency, and in 1826, together with Malacca and Singapore, it was included within the administrative sphere called the British Straits Settlements. At first Penang was the seat of the government, but later the phenomenal development of Singapore under the efficient management of Raffles so unquestionably overshadowed Penang, that in 1837 the government was transferred to Singapore. Since then Penang has lost much of its former glory, but still it is the greatest northern port and handles one-third of the shipping trade of the Straits. In handling the products of the northern peninsula (that is, N. of Perak), its position is unchallengeable. Besides, it is in a position to monopolize the trade between the E. coast of Sumatra and the W. coast of Siam. When the railway between Keda and Bangkok is completed, the greater part of the trade of Siam will undoubtedly pour into Penang. Penang is an important supply station of coal and water to both merchant and war vessels, as well as a safe refuge for them, and the port is well equipped for all these purposes. At Pari, on the opposite shore of Penang, are a graving dock (250×50 ft.), owned and operated by the government since 1906, and a slipway (100 ft. long).

Climate. On the E., Penang is backed by the great mountain range of the Peninsula and on the W. it is open to the Bengal Sea. Owing to this geographical situation, it is more under the influence of the monsoon than the other localities of the eastern states. During the season between November and March the monsoon blows towards the N. E., bringing continued dry and clear weather, and during the season between April and October it blows towards the S. W., followed by rain. Rain is more abundant here than in other regions, but, as elsewhere, neither rain nor a dry, hot spell continues very long at a time. The average temperature throughout the year is 80° on the plains and rarely exceeds 70° in a region of more than 2,000 ft. elevation. Accordingly, in the city and other hilly districts, where air circulates freely, the climate is healthy, but in the lower regions, where the air remains stagnant, it is not very good, and malaria is rather dangerously prevalent.

Important Buildings. ***Consulates:*** Chinese, 45, Green Hall; Danish, 33, Beach Street. Other Consulates—Belgian, French, Italian, Dutch, Norwegian, Portuguese, Swiss, American, and others —are all in the hands of some other agencies.

Offices: Penang is administered by one Resident Councillor. In the legislative council of Singapore, its interests are looked after by two unofficial representatives. The headquarters of its government are at Georgetown, and in each of the provinces of Wellesley and Dindings is a District Officer, who actually controls the local administration. The important official buildings of the city are:

Government Office, Beach Str.; Municipal Office, Light Str.; Police Court, Light Str.; Town Hall, Light Str.; Supreme Court, between Light Str. and Farquhar Str.; F. M. S. Railway Station, Weld Quay; Post and Telegraph Office, Weld Quay; General Hospital & District Hospital, near Race-course.

Churches and Schools: Church of England; Convent, Farquhar Str.; Methodist Episcopal Church, junction of Anson and Burmah Roads; Presbyterian Church, Northam Road; R. C. Church, Pulo Tikus; St. F. Xavier's Church, Farquhar Str.; St. George's Church, Pitt Str.; Anglo-Chinese Methodist Episcopal School, Maxwell Rd.; Free School, Penang, Farquhar Str.; Girls' School, Pulo Tikus.; M. E. Anglo-Chinese Girls' School, 152, Anson Rd.; The General College of the Missions Etrangères, Pulo Tikus.

Clubs and Associations: Chinese Club, 202, Macalister Rd.; Engineers' Institute, Leith Str.; Muslim Mahajana Sabha, 29, Penang Rd.; Muslim Society, Kapitan Kling Mosque. Penang Club, Northam Rd.; Penang Cricket Club, Light Str.; Penang Golf Club, Western Rd.; G. R. Club, Burmah Rd.; Penang Swimming Club, Tanjong Bungah. ***Newspapers:*** 'Straits Echo' and 'Sin Pive' (English and Chinese dailies), 59, Beach Str.; 'Penang Gazette Press' (daily and weekly), Logan's Building, Beach Str.

Banks and other Commercial Organs. Chartered Bank; Hongkong and Shanghai Banking Corporation; Mercantile Bank of India, Ltd.; Penang Chamber of Commerce; Penang Chamber of

Commerce Rubber Association; Penang Chinese Chamber of Commerce.

Main Mercantile Houses:

Abraham & Co. (Importers of Watches, Clocks, Boots and Shoes, etc.), Market Str.

Adamson, Gilfillan & Co. (Agents of P. & O. S. N. Co, Straits S. S. Co., etc.), Bank Buildings, Downing Str.

Anthony & Co. (Merchants, Shipping Agents, Exchange and Share Brokers), 9, Beach Str.

Barker & Co. (Accountants, Secretaries and Auditors), Bank Buildings, Downing Str.

Boelen & Co. (General Importers and Exporters), 49, Beach Str.

Brown, Philips, & Stewart (Accountants, Auditors, and Estate Agents), Downing Str.

Denny & Co., A. (Forwarding, Insurance, Estate, and Commission Agents), 7, Union Str.

Dispensary Ltd. (Chemists and Opticians), 2, Bishop Str.

Eastern Shipping Co., Ltd. (Engine Works and Dockyard), 41 & 43 Beach Str.

Eastern Smelting Co., Ltd. (Smelting Works), Dato Kramat Rd.

Eastern Trading Co. (Merchants and Commission Agents) 35, Pitt Str.

Guthrie & Co., Ltd. (Insurance and Shipping Agents for Osaka Shōsen Kaisha, etc.), 4, Weld Quay.

Katz Brothers, Ltd., (Merchants, Insurance, and Estate Agents), Downing Str.

Kennedy & Co. (Exchange and Share Brokers, Estate and General Agents), Downing Str.

Koninklijke Paketvaart Maatschappij (Royal Packet S. N. Co.), 53, Beach Str.

Mansfield & Co., Ltd. (Shipping and Commission Agents for China Mutual S. N. Co., China Navigation Co, Ocean S. S. Co. etc.), 33, Beach Str.

Paterson, Simons & Co., Ltd. (Merchants and Shipping Agents for Dodwell's Line, Barber Line, New York and Oriental S. S. Co., Nippon Yusen Kaisha—Calcutta Line, etc.), 9, Weld Quay.

Pritchard & Co., Ltd., (General Merchants), 15, Beach Str. and Union Str.

Telegraph Co., Ltd., Eastern Extension, Australia & China, Beach Str. and Northam Rd.

Walks and Resorts. Out of the business districts of the city there are several pleasant walks, and the suburbs are rich in beautiful scenery. A few of them are mentioned below:

The Chinese Temple of Ayer Itam, Penang.

Waterfall Garden. This lies at a distance of about four miles W. of the port-head, at the foot of Crag Hill, and can be reached by a motor-car in about thirty minutes. There are several roads leading to it, all of which are beautiful walks. Near the limits of the city, across the upper stream of the Penang, is Chetty Temple, from which a single gently-inclined road leads farther N. W. between the limpid stream on the right and the verdant Crag Hill far on the left. Going about three-quarters of a mile from the temple, one passes by a quarry and then soon comes to the garden. The garden is beautifully laid out, and the stream of the Penang is cleverly drawn in, so as to form a cascade without marring its natural appearance. The scenery is soothingly restful. W. of the garden and adjoining it is a reservoir, and on its S. side is the starting-point of the path that climbs up to the Crag Hotel, on the summit of Crag Hill, 2,066 ft. above the sea-level. The hill commands an extensive view of the surrounding sea. The whole ascent can be accomplished in a sedan-chair in about one hour.

The Chinese Temple at Ayer Itam. This is situated about four miles S. W. of Swettenham Pier and is reached in about half an hour by the tram car (*fare*, 20 cents, 1st class). The road runs along the shore of Weld Quay southward to Gato Kramat Road, and farther S. along the Ayer Itam, a branch stream of the Penang. The surrounding scenery is beautiful, and coconut groves stretch along the roadside almost the entire way. A little way past Ayer Itam, a native village, is the famous Chinese Temple. Its gate stands at the end of the road which gently climbs the hill. Inside the gate is a Chinese garden, a fantastic arrangement of miniature rocky hills, decorated with potted roses and chrysanthemums and monumental stones. To the left of the gate is a pond containing many tortoises.

The temple consists of a group of small edifices nestling at the foot of a little hill, and connected with each other by porches, which rise gradually step by step. Each edifice is consecrated to a Buddha. The colonnades on both sides of the sanctuary are elaborately carved with Chinese ideographs. Some of the images of Buddha are made of brass, some of alabaster, and some of wood overlaid with gold. Most of them are golden-coloured. As one reaches the topmost edifice, there suddenly opens out a wide view—an extensive stretch of coconut groves, the foliage of which, as the wind sweeps over them, rises and falls like the waves of the sea.

Coming down from the topmost temple, the visitor will be led to a small resting hall, where a monk will courteously serve him a cup of tea and ask him to write his name in the 'book of honoured names.' This is, of course, a delicate hint for a subscription towards the maintenance of the temple. Among the names recorded in the book are found such distinguished ones as those of His Highness Prince Arthur of Connaught, His Majesty the King of Siam, Adm. Tōgō, Gen. Nogi, and others. On the walls of the room are hung the autographs and portraits of these personalities.

Route XXV. North Borneo.

Approach to North Borneo. North Borneo can most conveniently be reached from Singapore. This is the usual route, though there is a route starting from Hongkong and going via the Philippine Islands. There are two routes from Singapore—one going to Tawao via Labuan, Jesselton, Kudat, Sandakan, and Lahat Dato, and the other going to Labuan, Jesselton, Kudat, Sandakan, Sulu, Cebu, Iloilo, and Zamboanga.

Passports and Customs. In British North Borneo, one who is going into the interior, whether for business purposes or as a mere traveller, must have a passport, the fee for which is shown below:

1. From Jesselton to the Sipitong along the western coast:

For a trip of less than three months ... ... $ 2 a person.
Over 3 months but less than one year ... ... $ 10 „

2. In other localities:

For a trip of less than three months ... ... 50 cents a person.
Over 3 months but less than one year ... ... $ 5 a person.

No fee is charged for a single voyage along the coast on board a steamer or a launch.

For a voyage in a native boat to or from the Philippine Islands, 50 cents a person is charged each voyage.

The Town of Sandakan. Sandakan is the greatest town as well as the greatest port in British North Borneo. It is situated in the eastern corner of the state, 1,000 m. distant from Singapore, 1,200 m. from Hongkong, 660 m. from Manila, and 4 m. from the mouth of Sandakan Gulf. The gulf is 15 m. long and 5 m. wide. Though its waters are fairly deep, large ships can not lie alongside the pier. A pilot is not required in this port. Its population is about 20,000, of which the Chinese form the largest number. Sandakan and Jesselton are the two most important administrative seats of British North Borneo. The governor stays one half of the year at Sandakan and the other half at Jesselton. The value of the exports in 1914 was $1,856,288, and that of the imports was $1,687,589. The town is protected at the back by a mountain range and stretches out along the narrow strip of land lying between the mountain and the sea; in fact, so narrow is this strip that some houses are built on piles driven in the seashore. European houses are built on the hill at the back, which is cool and commands an excellent view of the town and the gulf. The communication facilities, both in the town and with the suburbs, are very poor. Its water also is poor, so that visitors have to be especially cautious about drinking it.

Hotels: Besides the Sandakan Hotel there are two Japanese hotels, Fujiya and Yūkiya.

Clubs: Sandakan Club, North Borneo Turf Club, Lawn Tennis Club, Sandakan Recreation Club, etc. ***Chief mercantile houses:*** Darby & Co.; Hatton Hall; Funk & Sons (Photographers, Dealers

in Photographic Sundries, and Publishers of Pictures and Post Cards); Devanson & Co., A., (General Merchants, Commission Agents, & Contractors to the Navy). *Schools:* St. Mary's Roman Catholic School for Boys, St. Michael's School for Boys, St. Monica's School for Boys. *Church:* Church of England.

The Town of Jesselton. This town is built on a narrow tract, newly opened up along the coast. Its surrounding regions are marshy and its water is very poor, so that malaria is rather dangerously common. There is no hotel, only a government rest-house, which, however, unlike other rest-houses, supplies not only room and board but also attendance.

A room and bed is one dollar a day, the proceeds going to the government; and board is charged for at the rate of 30 cents for breakfast, 50 cents for luncheon, and 50 cents for supper, which amounts constitute the income of the cook. The number of guests being small, the cook cannot earn much and is therefore partially supported by the government, which pays him $15 a month.

The water of the port is deep, and a ship of 2,000 tons can easily lie alongside the pier. The pier is now being reconstructed in concrete, the coast is being filled in, and other harbour improvements are going on. Freight can be carried by the railway directly from the pier. It is said that the headquarters of the government are to be transferred here from Sandakan.

Its population does not exceed 5,000 at most, but, being a starting-point of the train going toward Beaufort and the second great port of the state, it is a prosperous business centre. In 1914, the total value of its exports was $1,450,206, of which $1,263,779 was that of rubber. The total import value was $1,579,106, of which $484,006 was that of food stuffs.

The important firms are Darby & Co. and J. Hatton & Co.

Jesselton—Weston—Tenom. From Jesselton to Beaufort the ground is level; the railway traverses Rempassuk Plain. The important villages along it are Putatan, Papa, Membakut, and Beaufort. Between Kitnarut and Kawang the line runs near the coast, which is barren, but from Papa the surrounding regions are mostly rice-fields. From Membakut to Beaufort rubber is extensively planted, and it is said that there are in this region alone about 10,000 acres of rubber plantations. The trees show a splendid growth and some of them are already producing.

Beaufort is situated 20 m. from Weston and 55 m. from Jesselton. It is the largest village along the line and contains a local government office and a rest-house. Its population does not exceed 1,000, but, owing to its rubber industry, it is comparatively prosperous. From here a branch line runs to Tenom, 33 m. distant.

Along the line are many wild coconut groves, which constitute the only source of livelihood for the natives. In order to protect them, the government prohibits the leasing of any of these groves. The sago exported from North Borneo comes mostly from this region. The rice produced in the regions along the line is of a very poor quality and used only by the natives. Its quantity also is small. The government has been trying to improve it by distributing rice

plants from Siam and other countries, but so far no practical result has been obtained.

The Town of Brunei. In the state of Brunei, its capital, Brunei, is the only town. It is situated about 12 m. up from the mouth of the Brunei. Its population is about 10,000, and the town is divided into two parts—the new and old sections. The new section lies at the foot of the hill and consists mainly of European and Chinese houses. The office of the Resident and the custom-house are in this section. The old section faces the new section, and some of its houses are built out over the water, as in Sandakan. There is a rest-house.

The Town of Kuching (Sarawak). Kuching is the capital of Sarawak. Its population is said to be about 20,000, but it is not an accurate estimation. The town is situated about 23 m. up the Sarawak. As the boat enters the river, the great peak of Santubang (3,000 ft. high) stands majestically on the right, and along its base stretch woods of casuarina trees, the leaves of which make a rustling sound as the wind plays over them. Natives therefore call them 'talking trees.' From the foot to the summit the mountain is thickly covered with green foliage. Where its foot spreads down to the water, the ground is sandy, with round brown stones attractively interspersed.

In about three hours the boat will reach Kuching. The Malay village is on the right shore, and a little farther up are Fort Margherita and Astana (or Asthana meaning 'palace'), where live the Rajah and Ranee and which consists of three sets of bungalows; the garden is spacious and beautiful. Towards the W. can be seen the majestic figure of Mt. Santubang.

Adjoining the Malay village is the district of Chinese and foreign Malays. The Chinese Sago Factory is situated in this district. Farther up are many important buildings, such as the Borneo Company's Office. At a distance of over ten miles up from this place is Mt. Matang, from which the town draws its drinking-water by means of pipes. A little farther up from the Borneo Company's Office is the wharf, about which lies the busiest district of the city. Above this district are the court house and the prison, and behind them is a hill, along the foot of which stand the police station, the government dispensary, the school of the S. P. G. Mission's Church, the public library, various clubs, and the museum, which has good anthropological and biological collections.

The town has a telephone system and several good roads on which carriages and motor-cars can be comfortably driven. There are scores of jinrikishas, the jinrikisha-men being mostly Chinese. Its foreign communications being little developed, it has no convenient international financial organ, and the visitor will not be able to draw cash, unless a special arrangement has been made beforehand with the Borneo Company or some rich Chinese.

Victoria Regia, Botanical Garden, Buitenzorg.

PART V. THE DUTCH EAST INDIES.

INTRODUCTION.

Chapter I. Preliminary Information.

I. Routes to the Dutch East Indies. The steamship services from Western Europe to the Dutch East Indies regularly operated at present are: Nederland Royal Mail Line—sailing fortnightly from Amsterdam via Suez to Sabang of Sumatra, Singapore, and Batavia of Java. Rotterdam Lloyd Co.,—sailing fortnightly from Rotterdam via Suez to Padang and Batavia.

Those coming from Europe by P. & O., M. M., N. Y. K., and other lines to the Orient must stop at Singapore and wait for a proper steamer sailing to the Dutch East Indies. Those coming from America by the steamers of the Canadian Pacific Steamship Co., T.K.K., and N.Y.K., or from Europe by the Siberian Railway and South Manchuria Railway via Dairen and Fusan, to Japan, may proceed to the Dutch East Indies by the steamers of the Australian Line of the N.Y.K., the South Sea Line of the Ōsaka Shōsen Kaisha, Java-China-Japan Line, etc. But the usual and better way for the general tourist is to go to Hongkong or Singapore and thence to sail to the Dutch Possessions. For further details see P. xxvi.

Royal Packet Navigation Co. (Koninklijke Paketvaart Maatschappij),—sailing from Singapore and calling at all important ports of the Dutch East Indies, including also the steamer services between Batavia and Australia via New Guinea. This is the most important interisland service in this region. Other services following a similar route are the Java-Bengal Line, Asiatic Steam Navigation Co., Burns Philp Line, Ocean Steamship Co., Messageries Maritimes, Norddeutscher Lloyd, etc.

II. Passports and Customs. Any Dutch subject (except officers and their families and those born in the colonies), other European, or Japanese, coming to any port in the Dutch East Indies, must present a written notice of his nationality, name, age, the place of departure, and the object of his journey, to the district office within three days from the time of his arrival, and ask for a passport to the interior. The effective time of the passport is limited to six months, though it may be lengthened by renewed application. All except those travelling with tourist, return, or circular tickets are obliged to pay *fl.* 25 for a landing permit, which must be exchanged within three days for a passport (fee, *fl.* 1.50). The security for landing above mentioned is paid back at the office

of the harbour master, if the traveller leaves the place within the prescribed time.

The Customs' officials are generally very polite to the tourist and try not to be unnecessarily particular in the examination of his luggage; only tobacco and liquors are taxed. But fire-arms and drugs containing opium are not allowed to be taken in, unless a satisfactory reason is presented. Fire-arms had better be left in the custody of the authorities during one's travel. Sample merchandise in any excessive amount is sometimes taxed.

III. Plan of Tour. The most important island in the Dutch East Indies is Java. Sumatra, Celebes, and Borneo are next in importance, and their natural scenery and resources and the quaint manners and customs of their natives are attractive enough to merit the notice of the general tourist. Sumatra, being situated close between Singapore and Java, is easily accessible from both. Not only can its two great ports, Padang and Sabang, and Medan, a great tobacco-producing centre, be easily reached either from Singapore or Batavia, but also its grand tropical scenery — the island being directly under the equator—is sure to attract the interest of the visitor. Celebes, too, is developing fast in its extreme southern and northern regions. Its N. end, Minahassa, sometimes called a Holy Village, because of the fact that its native inhabitants are very well civilized and particularly pious, is especially rich in natural scenery and resources, and, owing to its high elevation, its climate is mild in spite of its equatorial position. For anthropologists and other specialists, and for exploiters of natural resources, the interiors of Borneo and Celebes are equally, and perhaps more, interesting.

For an excursion through Java (starting from Batavia) from two to three weeks are usually allotted. If the tourist is also to see Bali Island, two more weeks must be added. The high plateau behind Padang in Sumatra will alone take from one to two weeks. Dutch Borneo and Celebes, including the return trip, will take about a month. For these two islands the tourist may start from Singapore or Batavia; but the best way is to start from Soerabaja, after completing the tour of Java, and go to Makassar, the southern port of Celebes, thence to Balik Papan (an oil-producing region in Borneo), and, again touching at the western coast of Celebes, finally come to Menado of Minahassa at the north-eastern end of the island.

The tour of the Dutch Possessions must be largely dependent on the steamship service, and this service is exclusively in the hands of the Royal Packet Company, whose routes are rather complicated, so that the tourist must carefully plan the order of his trip beforehand, consulting the time-table published by the company. The following are some of the plans of tour recommended by the Tourist Bureau of Batavia.

JAVA SEA
JAVA
INDIAN OCEAN
SUMATRA
BANTAM
BATAVIA
PREANGER REGENCIES
CHERIBON
PEKALONGAN
BANJOEMAS
KEDOE
DJOKJAKARTA
SOERAKARTA
SEMARANG
REMBANG
MADOERA
SOERABAJA
KEDIRI
PASOEROEAN
BESOEKI
Madoera Strait
Bali
Karimoend Java
Kemoedian
Genting
Baweanl.
Sangkapoera
Boompjes
Scale 1: 36 00 000
Japanese Ri
English Statute Miles
Kilometres
106°
108°
110°
112°
114°
6°
8°

Plan No. 1. Trip from Batavia.

1st day,—Arrival at Batavia and sight-seeing in the city.
2nd day,—The Museum; sight-seeing in old Batavia; leave for Buitenzorg in the afternoon.
3rd day,—The Botanical Garden; excursion to Kota Batoe.
4th day,—Leave Buitenzorg in the morning; arrive at Bandoeng; sight-seeing of the city in the afternoon.
5th day,—Leave Bandoeng in the morning; change trains at Tjibatoe; arrive at Garoet, (lunch at the hotel, not on the train); excursion to Lake Bangendit or Tjipanas.
6th day,—Excursion to Mt. Papandajan.
7th day,—Excursion to Kawah Kamodjan or Telaga Bodas. (While staying at Garoet, the tourist should see its pawn-shops, and for this the introduction of the hotel proprietor is required).
8th day,—Leave Garoet in the morning; change trains at Tjibatoe; arrive at Djokjakarta, after luncheon see its water castle, market, and the exhibition of the native hand-works.
9th day,—Excursion to Boroboedoer and Brambanan.
10th day,—Leave Djokja in the morning; arrive at Solo, see the city and its palace and menagerie; leave Solo in the evening; arrive at Soerabaja.
11th day,—Leave Soerabaja in the morning; arrive at Pasoeroean; thence by motor-car to Tosari (arriving about noon).
12th day,—Excursion to the crater of Bromo and Sand Sea.
13th day,—Arrive at Nongkodjadjar by sedan-chair or on horseback, put up at Hotel Nongkodjadjar; sight-seeing in the vicinity.
14th day,—Leave Nongkodjadjar and arrive at Lawang by sedan-chair or on horseback; leave Lawang, change trains at Bangil; arrive at Soerabaja.

Plan No. 2. Trip from Soerabaja.

1st day,—Arrival at Soerabaja and sight-seeing of the city.
2nd day,—Leave for Pasoeroean by the first morning train and proceed from there to Tosari by motor-car.
3rd day,—Stay at Tosari; from there take an excursion to Mt. Bromo and Sand Sea.
4th day,—Still staying at Tosari; from there make an excursion to Penandjaan.
5th day,—Leave Tosari for Pasoeroean and come back to Soerabaja.
6th day,—Leave Soerabaja for Djokja by the early morning train; stop off at Solo en route and see its palace and menagerie.
7th day,—Stay at Djokja; visit to the palace of the Sultan, (open on Fridays only, but, with an introduction from the Dutch government, the tourist may see it at any time); visit to Brambanan temple in the afternoon.
8th day,—Visit to Boroboedoer in the morning; see the exhibition of native hand-works and also the water castle in the afternoon.
9th day,—Arrive at Garoet; see Tjipanas and Bagendit in the afternoon.
10th day,—Stay at Garoet; from there make an excursion to Papandajan.
11th day,—Excursion to Telaga Bodas (White Lake).
12th day,—Leave for Bandoeng early in the morning; see Bandoeng and its vicinity in the afternoon.
13th day,—Stay at Bandoeng; from there to Lambang by motor-car, and thence to the crater of Tangkoeban Prahoe by sedan-chair or on horseback; take luncheon at Lembang and come back to Bandoeng.
14th day,—Leave Bandoeng early in the morning; arrive at Tjiandjoer; excursion to Sindangalaja by sedan-chair or on horseback; sight-seeing in the vicinity in the afternoon.
15th day,—Visit to Poentjak Pass and Telaga Warna in the morning; leave in the afternoon for Tjiandjoer either by carriage or motor-car, and thence to Soekaboemi by train.
16th day,—Stay at Soekaboemi; excursion to Ngalindoeng.
17th day,—Stay at Soekaboemi; excursion to Pelaboean Ratoe (Wynkoopsbay) or Tjibeureum by motor-car.
18th day,—Leave Soekaboemi for Buitenzorg; drive in the suburbs in the afternoon (Kota Batoe).
19th day,—Visit to the Botanical Garden; leave for Batavia in the afternoon.
20th day,—Sight-seeing in old Batavia in the morning; visit to the Museum and Weltevreden in the afternoon.
21st day,—Sailing from Tandjong Priok.

VI. Climate and Time of Visit. As the Dutch East Indies spread out on the N. and S. sides of the equator in the open ocean, the climate of different localities is more or less different. But, generally speaking, the climate of these islands is determined by the Asiatic Continent on the N. and the continent of Australia on the S. January being the hottest part of the Australian summer, the wind in the Dutch East Indies blows during this month from the N. March is a transitionary and unsettled period. From April the wind begins to blow from the S. and grows stronger day after day until July and August, when it gradually becomes weaker. November is another unsettled period, and in December the wind again begins to blow from the N. Being situated either directly under, or very near to, the equator, these islands are rarely visited by devastating storms or hurricanes. The temperature does not vary much throughout the year, and in fact there is but one season, viz. perpetual summer. The difference of temperature between day and night is also very slight. Although rainy and dry seasons may be distinguished, the distinction is not a very sharp one. Rain occurs even in the dry season, but it is not quite so abundant as in the other season. The change of the two seasons is marked by the unsettled periods in March and November. That is to say, the months of December, January, and February are the rainy season and the months of June, July, and August are the dry season. Generally speaking, within a single day the temperature varies less in the rainy season than in the dry season (from 10° to 12° Fahr. in the latter and from 7° to 9° Fahr. in the former). The average temperature is also lower in the rainy season, and therefore much cooler. The hottest month is October and the coolest is February. The following table shows the average temperatures of different localities on the coast, but inland it is much more variable.

	Average maximum temperature	Average minimum temperature.
Java.....	79·3	77·5
Sumatra	81·3	79·6
Borneo	81·9	78·3
Celebes...	81·5	77·0

The Dutch East Indies, being situated in the tropical belt, enjoy abundant rainfall. Rain occurs mostly in the afternoon and continues till night, being accompanied in most cases by thunder, though lightning rarely does any harm. In the northern regions of Sumatra, owing to the influence of the monsoon, rain occurs most abundantly in August. In the regions directly under the equator, it rains almost continually throughout the year. In the China Sea, Java Sea, and Sunda Islands, rain continues through the months of December, January, and February, which latter is the most rainy month of all. But in the western part of Java and the southern part of Sumatra, rain is more abundant during the dry season of Eastern Java.

The climate of the Dutch East Indies being nearly the same throughout the year, any season is about as good as any other to

visit the islands. The fact that most travellers visit them during the rainy season (December, January, February, and even in March) is due to the natural desire of tourists to escape the severe winter of their own countries. As far as the weather of these islands is concerned, the dry season is preferable.

V. Sanitary Conditions. With the exception of Java and Madoera, the islands, owing to their thinly-populated condition, have no prevalent disease, except some kind of fever inevitable in the tropics. But in such thickly-peopled countries as Java, all sorts of epidemic diseases are more or less prevalent. The tourist can, however, easily guard against these by careful sanitary precautions.

The sanitary equipments and regulations of the Dutch East Indies are controlled by the educational and the agricultural and industrial departments, and each district and province has its own independent sanitary organization, devoted to the prevention and the extermination of diseases of man and animals. Though in remote localities, where Europeans are rarely found, the sanitary equipment is naturally poor, in such countries as Java, where many Europeans are living, it is highly efficient. In such places are found many hospitals, both private and public, and many physicians, most of whom speak not only Dutch and Malay, but English, German, and French. The army hospitals of Java treat liberally both Europeans and Japanese. Even in remote localites, where there are no physicians, their controllers will gladly administer proper medicine to those in need of it. In Batavia, Soerabaja, and Belawan Deli are quarantine stations.

Small-pox has long been one of the most prevalent diseases, and the government early established vaccinating stations in all important places of the country and undertook the vaccination of natives free of charge. Malaria is a common disease in almost all localities and especially in wet, low-lying regions. It is said that forty per cent of the patients treated in the hospitals of the country are suffering from this disease. Cholera, once started, spreads widely and rapidly, owing to the insanitary habits of the natives, who wash in the rivers and thoughtlessly drink water from the same source.

VI. Hotels and Restaurants. In every important city there are generally to be found two or three hotels, and any place without an hotel generally has a rest-house (Passanggrahan), which was originally intended for the use of travelling officials, but which may be used also by the general tourist, on application to the assistant resident or controller of the place and payment of the prescribed tariff. Besides these European hotels, there are also some owned by Chinese, which, however, are not suitable for Europeans. The European hotels are managed very capably in every respect. Unlike the hotels of Singapore, they are generally one-storied buildings, and each room has a wide veranda in front, facing a garden or a carriage road. The boarder usually rests and receives his guests on this veranda. The bath water of all these hotels, except some in remote resorts, is cold. Most clerks, in addition to Dutch and Malay, speak some English, German, and French, so that visitors of any nationality can make themselves understood. In every hotel

there are room boys, who attend to all minor orders of visitors. In a place where there is a laundry, the boy will take orders for any washing required, which will come back washed and ironed in less than twenty-four hours (charge: ten cents a piece). Carriages can also be engaged through the clerk of the hotel.

As most hotels in Java are generally fully occupied, the tourist is advised to wire or write beforehand to the hotel at which he intends to stop. The tariff differs more or less in different places, but in cities it is generally from *fl.* 7 to 8 per day, American plan, and from *fl.* 12 to 13 for the best separate rooms. This charge includes the room rent (a bed-room with a veranda attached) and board (early morning coffee or cocoa, breakfast, luncheon, afternoon tea, and supper). Ice and iced water are supplied free of charge at any time, if orders are given to the room boy. A cold water bath (warm bath in remote mountain resorts) can be taken also at any time, free of charge.

The boys are paid definite wages, so that they are by no means dependent on tips for their livelihood; but lately the habit of tipping boys and drivers has become so common, that they have come to expect it as a matter of course. The suitable amount varies from twenty-five cents to one guilder, according to the length of one's stay or travel.

The following is the telegraph code specially designed for the convenience of tourists and used in all the hotels:

Telegraphic Code for the Hotels in Java.

Please reserve	one single-bedded room	...ALBA
,, ,,	one double-bedded room	...ALBUM
,, ,,	two single-bedded rooms	...BABEL
,, ,,	one single-bedded and one double-bedded room	..BAZAR
,, ,,	two double-bedded rooms	...BADINE
,, ,,	one single-bedded and two double-bedded rooms	...CADEAU
,, ,,	two single-bedded and one double-bedded room	...CABLE
,, ,,	three single-bedded rooms	...CABIN
,, ,,	three double-bedded rooms...	..CRAPAUD
,, ,,	four single-bedded rooms	...DAISY
,, ,,	five single-bedded rooms	...DELAWARE
,, ,,	two single-bedded and two double-bedded rooms	...DISTANCE
,, ,,	three single-bedded and one double-bedded room	...DORPER
,, ,,	four double-bedded rooms	...DEDUCT
I (We) do not	want the rooms we ordered...	...CANCEL
I (We) shall	arrive one day earlier	...DEARLY
,, ,, ,,	two days earlier	...TWEAK
,, ,, ,,	one day later	...RELATE
,, ,, ,,	two days later...	...LATELY

Example: Hotel X, Soerabaja, CADEAU to-morrow.
Means: Hotel X, Soerabaja: Please reserve one single-bedded and two double-bedded rooms for to-morrow

VII. Currency, Weights and Measures: The coins circulating in the Dutch East Indies are the same as those circulating in Holland. The gold coins of 10 guilders (16/8d.) and 5 guilders (8/4d.) are the standard coins, but they are usually stored in banks and

rarely found in circulation. Three silver coins of *fl.* 2.50 (4/2d.), *fl.* 1 (1/8d.), and 50 cents (10d.) are generally used in daily transactions. The silver coins of 25 cents (5d.) and below are legal tender only up to the sum of *fl.* 10, the nickel coins to *fl.* 5, and copper coins to *fl.* 2. Convertible bank notes are of nine denominations: *fl.* 5, 10, 25, 50, 100, 200, 300, 500, and 1,000.

The weights and measures used in the Dutch East Indies are those of Holland and of the natives. The following are the measures and weights commonly used:—

Measures of Distance:—

Metre	3.1853 Rhineland feet.
Rhineland Foot	0.313947 metre.
Paal	1,506.94 metres.
Sumatra Paal	1,851.85 metres.
Amsterdam el	0.68781 metre.
Geographical Mile	7,420.4 metres=4.611 English miles=4.924 paal
Fathom (Amst.)	1.69878 metres.

Measures of Area:—

Square Geog. Mile	24.2475 square paal =7,759.2 bouw.
100 Hectre	1 square km.=140.9147 bouw.
Square Paal	320 bouw.
Bouw or Bahoe	7,096.5 square metres =1.7537 English acres.
Djoeng	2 bouw (West Java).
Pantjar	4 bouw (East Java).

Measures of Volume:—

Batavia Kan	1.5751 litres.
Batavia Ton	0.9283 hectolitre.
Leggers	388 Batavia kan=588.15 litres.
Kojan	32 pikols=1,976.36 kgs.
Register Ton	283 cubic metres.
Toembak	6.684 cubic metres.
Gantang	8.5766 litres=1/8 pikol.
Taker	17 Batavia kan=25.77 litres.
Batok	1/8 gantang=1.07 litres.
Kodi	20 pounds of tobacco.

Measures for Oil:—

Vat Raw Oil	159 litres.
Case	2 cans=37.8 litres=10 Amsterdam gallons.
Unit	37.8 litres; Raw oil, 100 litres.

Weights:—

Picul	61.761302 kgs.=125 Amsterdam pounds.
Java Picul	136 English pounds.
Kattie	1/100 picul=1⅓ Amst. pounds=0.617613 kg.
Gantang	10 kattie (Middle Java)=5 kattie (East Java).
Amsterdam Pound	0.49409 kg.

VIII. Languages and Guides. The inhabitants of the Dutch East Indies are a mixture of various races, as stated in the section on 'Inhabitants.' Naturally they use their own languages; but the language most commonly and widely used is Malay. All officers, educated natives, and Chinese, can converse in this common language. All proclamations of the government are, however, written in Dutch and translated, when necessary, into both Chinese and Malay.

In Sumatra Island, the native dialects are Achinese, Gajo, Batak, Retjang, Lampong, Simalour, Nias, Mentawei, Engano, etc., but Malay is its common language. In Celebes and its surrounding islands, Sangirese (used in Minahassa), Bolang, Mongodow, Ponosakan, Gorontalo, Mandarese, Kajeli, Tomini, Pagouat, Luinan, Kaidipan, Bonol, Tontoli, Malasa, Tara, Barei, Tobungku, Tomsit, Banggaja, etc., are used; but of these Makassar, used in the region of Makassar, and Bugi, used by the Bugi tribe of the eastern coast of Borneo, are the most important. In Java, the native dialects may be classified into three

great groups: Sunda in the western part, Javanese in the middle and the eastern parts, and Madoera in the eastern region facing Madoera. In the vicinity of Batavia, Malay is used; and in a few regions W. of Batavia a mixture of Malay and Sunda is used. In Anjer, Bantam, and on the N. coast facing the Sunda Strait, Javanese is used. In the southern regions facing the Indian Ocean, Sundanese is generally spoken. In some regions W. of Batavia, a mixture of Malay and Javanese is spoken. In the whole region of Java about the self-governing provinces, Solo and Djokjakarta, Javanese is used. In the regions E. of these provinces there is an admixture of Madoera, and in Soerabaja and its vicinity a mixture of Javanese and Madoera is spoken. In the ports farther E. of this, such as Pasoeroean, Probolinggo, Panaroekan, Bondowoso, etc., pure Madoera is used. In the region S. of these places, Javanese and Madoera are mingled in varying grades. In the regions behind this and facing the Indian Ocean, pure Javanese is spoken.

The languages used by Europeans are naturally their own native tongues. The Dutch are the dominant Europeans, and Dutch is spoken commonly among themselves; but, since these islands are surrounded by English colonies on three sides, and intercourse with Europeans of other nationalities is very intimate and active, all the Dutch of these colonies study English, French, and German in their high schools, and these three languages are freely spoken. The business language used among Europeans is mostly English, though, in dealing with natives, Malay is used even by Europeans. Malay is also used by the Chinese, who have laid an unshakable foundation of their influence in the Malay Peninsula, Java, and all surrounding islands.

Malay, being a very simple language, can be learned easily by any people. Even tourists, who do not understand this language at all, may procure a little Malay conversation book and put it to immediate use.

Malay has little accent. Its syllables are constructed very regularly and pronounced very simply, and its vowels are pronounced mostly like French vowels. In pronouncing the names of places in the Dutch East Indies, the following remarks will be helpful for the reader:—

ĕ is to be pronounced like e of 'the'; e like French é or è; a and i as in French.

Dutch j=English y	Dutch dja=English ja
„ tja= „ cha	„ oe= „ u in 'rule.'

Guides: In Java, which, of the whole Dutch East Indies, attracts the greatest number of tourists, English-speaking guides can easily be secured by applying to hotels or to the Official Tourist Bureau of Batavia. They are mostly Eurasians, Malays, and Javanese. They charge generally *fl.* 3 a day, besides travelling expenses, which must be borne, of course, by the employer. Since most Eurasians speak Dutch, Malay, and good English, they are to be preferred to all others, if the knowledge of languages is the main consideration. But Malays and Javanese speak sufficient English for all practical purposes; besides, they charge less and can be used partly as porters, and, furthermore, the expense of their board is less than that of Eurasians.

The Official Tourist Bureau (see P. 376) was founded for the purpose of enabling tourists to make the most of their trip. It invites, gratis, all consultation as to the plan of tour, the best hotels to stop at, etc. It also supplies maps, time tables, guide books, etc., at

actual cost. Even written enquiries will be carefully and courteously answered.

Hours of Business and Calling: In the Dutch East Indies, owing to the habit of taking a siesta after luncheon, most business houses close during a part of the afternoon. As the time of the afternoon business hours varies in different houses, shopping and banking had better be done in the morning. In Java supper is generally taken between eight and nine o'clock. Accordingly, the best time to make a call is between seven and eight in the evening.

Railways: The total length of railways open at present in the Dutch East Indies is 5,234 km., of which 4,260 km. are in Java, 205 km. in Madoera, and 769 km. in Sumatra. Of these three islands, Java has the most developed railway system. Beginning from its western great city, Batavia, the system extends through the whole length of the island to its eastern great city, Soerabaja, and farther E. to Panaroekan and Banjoewangi, taking in all important cities and villages. Of this system, the state line covers 2,271 km., and 1,989 km. belong to twelve different private companies.

BATIK INDUSTRY.

The railways of Java, with the exception of a few lines, are of 3′ 6″ gauge (1.067 metres). One of the exceptions is the line between Semarang, Vorstenlanden (Djokjakarta S. V.), and Brossot, extending for 231 km. and operated by the Netherland Indian Ry. Co., which is of 4′ 8½″ gauge (1.435 metres). Of this line, the part between Semarang and Djokja, extending for 206 km. and including the branch line between Djati and Willen, was the first railway built in Java. The part between Djokja and Solo (58 km.) was constructed, by the agreement of the government and the company, with a double gauge by laying a third rail inside the wider line, at a distance of 3′ 6″ from one side, so that it can be used in connection with the state line.

The train running between Batavia and Soerabaja has to pass over this double line. One more exception is the line from Tikampek to Tjilamaja and Wadas (43 km.), which is a branch line of 2′ 3½″ gauge (0.7 metre).

Further, the railways of Java consist of two kinds, namely, the ordinary railway (spoorwegen) and light railway (stoomtramwege). The ordinary railway covers three-fifths of the total mileage, and the rest is light railway or steam tramway. The latter is built much lighter in all respects (in the width of the road, the depth of the ballast, the weight of cars, speed, etc.), and, though called a 'tram,' it extends sometimes for a great length (for instance, 169 km. between Soerabaja and Kradenan and Goendih) and runs fast trains, almost as fast as the express trains of the ordinary railway. One great advantage of this light railway is that it can be run easily and conveniently through cities and streets, stopping at all sorts of places where stations can be lightly equipped.

Important Lines: The main line of the Java State Railways extends from Batavia to Panaroekan (1,158 km.). Starting from Batavia it runs through the hilly western regions, between Tjikampek and Bandoeng, and then along the southern coast, via Maos, Djokja, and Solo, to the great eastern city, Soerabaja. Thence it turns southward and, running past Pasoeroean and Probolinggo and round the foot of Mt. Ijang, comes to Panarockan on the N. coast. The most important line is between Batavia and Soerabaja (871 km.). Express trains are run twice a day between these two great cities, and all other lines connected with it are operated in accordance with the schedule of this line. On the railways of Java, no night trains are run, and formerly the journey between Batavia and Soerabaja took two days, Maos, situated just halfway between the two, being the regular stopping place. Now the train leaving Batavia early in the morning reaches Djokja in the evening, and that leaving Soerabaja in the early morning reaches Bandoeng in the evening, so that the rest of the distance from either point can be travelled in half a day. That is, the entire distance between the two great cities can now be run in one day and a half. But those who wish to visit Buitenzorg on the way must spend half a day there, resuming their journey the following morning by the fast train, which will be connected at Padalalang with the main state line. In this case the journey between Batavia and Soerabaja takes two days. The following are the stations of the branch lines connected with this main line:

Junction Stations.	Terminal Stations.
Tjibatoe ...	...Garoet.
Maos	...Tjilatap.
Koetoarjo...	...Poerworedjo.
Djokja ...	...Magelang } Willem I.
Solo	...Semarang }

Junction Stations.	Terminal Stations.
Kertosono ...	Kediri, Toelveng, Agoeng, Glitar, Wlingi.
Tarik	...Sidoardjo, Bangil, Pasoeroean.
Kedoengdjati	...Toentang, Willem I.

From Batavia to Cheribon (220 km., in about 5 hrs.) there also run two express trains every day. The morning train continues to Semarang (12 hrs. from Batavia), and from Semarang to Soerabaja (297 km., in about 7½ hrs.) an express train is run each day. The whole trip on this route from Batavia to Soerabaja takes a little over a day and a half. Of this route, the first section belongs to the

State Railway (S. S. Ry.), the second to the Semarang-Cheribon Railway Co. (S. C. S.), and the third to the Dutch East Indies Railway Co. (N. I. S.), and the last two lines are steam tramways.

The passenger carriages are usually vestibule cars and they are divided into three classes, first, second, and third. In the ordinary slow train there is another class intended exclusively for natives. The cars of the express train are neatly made and equipped with fairly wide seats and with toilet rooms, and a dining car is attached. As is quite natural in the tropics, the carriage windows are apt to be left open always, and, in order to prevent the blowing in of cinders and dust, they are provided with thick screen windows.

Local passenger trains are run on all lines from four to seven or eight times a day, according to the requirements of each locality. In the regions near such great cities as Batavia, Semarang, and Soerabaja, they are operated even more frequently. For further details the reader is referred to the time table, 'Nillmij's Spoorboekje,' published by G. Kolff, Batavia.

Regulations of the State Railways of Java.

Fare: The fare of the State Railways of Java is based upon the following rates:

The first and second classes, 4.5 cents and 3 cents respectively per each tariff-kilometre. The smallest counting unit is *fl.* 0.25, and fractions of *fl.* 0.12 or less shall be disregarded. The minimum fare for the first class is *fl.* 0.50 and for the second class *fl.* 0.25.

The third class fare for distances of less than 500 km. is 1.5 cents per kilometre for the first 250 km., 0.5 cent per kilometre of the distance between 250 km. and 500 km., and for distances above 500 km. it is 1 cent per kilometre. 0.5 cent is the smallest counting unit.

The fare for a native is 1 cent per kilometre for any distance. The smallest counting unit is 5 cents. This regulation does not apply to express trains.

On the special fast train an extra charge of *fl.* 2 is added to the above fares (1st, 2nd, and 3rd classes alike), except in the case of children under 2 years of age.

No fare is required for children under 2 years of age, provided that they do not occupy a seat. Half the adult fare shall be charged for all children above 2 years and less than ten years of age. In this case, the smallest counting unit in the first and second classes is 5 cents, and in the third class 1 cent.

Departure and Stop-over: A passenger must depart by the train specified on his ticket. In case he wishes to depart by a later train than the one specified on the ticket, he must apply to the station-master to have his ticket modified accordingly. In those railway stations where such modification is not allowed, the charge for the ticket shall be refunded, provided that the ticket is presented to the station-master immediately after the departure of the specified train.

A passenger, wishing to stop over at any station on the route he is travelling, must apply to the station-master and get his ticket endorsed to be effective by the later train he is going to take. A passenger may stop over as often as he likes.

Term of Validity of Ticket: The effective time limit of a ticket for local communication is twenty-four hours for a distance of 200 km. or less. In case a passenger gets off the train before the expiration of the time limit of his ticket and applies immediately to the station-master, his ticket can be made effective for another twenty-four hours. In case a passenger abandons his journey by reason of sickness or for other sufficient reason, the fare for the unused portion of his ticket shall be refunded, provided that he presents

his ticket, together with a statement of the reason and a receipt for the reimbursed sum, to the station-master.

Pleasure Trip Trains (Pleiziertrein): The fare of the train operated exclusively for the purpose of a pleasure trip, or other similar purpose, is 75% of the ordinary one-way fare (1st, 2nd, and 3rd classes alike).

Tourist-tickets (Touristenbiljietten): Tourist-tickets are issued for the first class only and are of the following three kinds:

(a) Tandjong Priok—Pasoeroean, *fl.* 55.35; children over two and less than ten years of age, *fl.* 29.15.

(b) Tandjong Priok—Mountilan (Boroboedoer), round trip, *fl.* 60.95; children over two and less than ten years of age, *fl.* 31.18.

(c) Tandjong Priok—Garoet, round trip, *fl.* 28.20; children over two and less than ten years of age, *fl.* 15.10.

Tourist-tickets can be obtained at any of the following stations: Tandjong Priok, Batavia Nord, Batavia Zuid, Weltevreden, Kemajoran, Soerabaja-Koto, and Soerabaja-Goebeng. The trip between Batavia and Bandoeng may be done either via Buitenzorg or via Poerwakarte. The ticket is not transferable and must be signed by the holder.

The ticket for route (a) is valid for sixty days after the date of issue, and the other two, (b) and (c), for thirty days. Extension of this time limit is not allowed under any circumstances; but within the time limit the passenger may stop over at any station without notice.

Luggage: The express rate for luggage is as follows: 0.3 cent for every ten kgs. per each km. up to the first 150 km.; 1 cent for every ten kgs. per every 8 km. of the distance between 150 km. and 350 km.; 0.2 cent for every 10 kgs. per each km. for distances above 350 km. The minimum counting unit is one cent, and fractions below half a cent are disregarded.

30 kgs. of luggage for adults and 10 kgs. for children shall be carried free of charge once only, and only from the original departure station of the passenger. In case a passenger wants his luggage carried farther than his destination, no weight shall be carried free of charge.

Luggage may be left in the custody of the station by paying 10 cents a piece for every twenty-four hours or fraction thereof.

Luggage may be insured at the rate of 20 cents for each *fl.* 100 of value or 100 kgs. of weight. The minimum premium is 50 cents.

A passenger stopping over on the way may receive the whole or a part of his luggage in exchange for his receipt.

Hand luggage shall not exceed 20 kgs., and it must be put on the rack or under the seat. It may be put in the passage way or on a vacant seat, provided it does not interfere with the comfort and convenience of other passengers.

Roads. In the outer possessions of the Dutch East Indies, owing to their generally undeveloped condition, their roads are still poor and do not extend far. Especially in Sumatra and Borneo, where communication is largely dependent on rivers, the construction of roads is naturally neglected. But Java and Madoera, owing to their earlier development and also to various military reasons, have systems of fairly well-laid roads. At present, the total mileage of the main roads starting from the W. end of Java and running to its E. end, via Cheribon, Semarang, Soerabaja, etc., amounts to 800 miles.

Coastal and Riverine Communications. The navigation business of the Dutch East Indies has developed with remarkable rapidity.

Especially after the opening of the Suez Canal, several companies subsidized by the government began operating regularly scheduled steamers from Singapore and Penang to all ports of the Dutch East Indies. Besides these, there is the Koninklijke Paketvaart Maatschappij (or Royal Packet Navigation Co.), established by the joint interest of the Rotterdam Lloyd and the Nederland Royal Mail Line and subsidized by the government, which operates a regular service along the entire coast of the Dutch East Indies. At present, this coastal service is almost entirely the monopoly of this company, (for details of the service see Introductory Remarks, Pp. xxvii-xxx).

The routes traversed by the steamers of this company extend all over the surrounding seas. One of them starts from Soerabaja and goes to the S. E. coast of Borneo and other islands farther E. of this; another starts from Batavia and goes to the W. coast of Borneo and various islands scattered between Singapore and Sumatra; another starts from Singapore and goes to all important ports of the Dutch East Indies; and another starts from Batavia and goes, via Soerabaja and other E. ports of Java and the N. coast of Australia, as far as Melbourne on the S. coast of Australia. In case two or more steamers are shown by the time table to arrive at the same port at the same time, a passenger on one steamer may plan to change to another, as suits his convenience, provided that both steamers are engaged on the voyage of the prescribed routes. In case their routes are not definitely prescribed, their captains have the right to stop at any ports on the way for three or four days, in order to avoid the congestion of freight. The steamers running between Singapore and Java are, with one or two exceptions, devoted chiefly to freight service.

River Navigation: In Sumatra and Borneo rivers are used as the chief means of communication. In order to facilitate the entrance of the coasting steamers into rivers, various river improvement works are being planned. At present, wide boats of shallow draft with a paddle wheel at the stern are generally used in the navigation of rivers; but in their lower courses the ordinary screw-propelled boats can be used freely. Motor boats are also extensively used for the travelling of officers.

Riverine Services maintained by the Royal Packet Navigation Co. in Dutch Borneo and Sumatra are:—

Sumatra.

Palembang—Singapore—Muntok—Palembang (weekly): and from Palembang a stern-wheeler leaves on every Wednesday and Saturday for Sekajoe, Lakitan, and Moeara Klingi, on the upper course of the Moesi River.

Singapore—Djambi (weekly) on the Djambi, via Moeara Saba and Simpang.

Singapore—Rengat (weekly) on the Indragiri, via Priji Radja, Sapat, and Tembilahan.

Singapore—Pakan Baroe (fortnightly) on the Siak, via Bengalis, and Siak.

Borneo.

Bandjermasin—Poeroek Tjahoe (fortnightly) on the Barito and the Negara, via Marabahan, Negara Boentok, Moeara Teweh, and Poeroek Tjahoe. Bebirik and Amoentai are called at optionally.

Samarinda—Long Iram (every ten days) on the Koetei River, to Tenggaroeng, Saboeloe, Moera Kaman, Moeara Moentei, Moeara Pahoe, Melak, Moejoep, Long Iram, and back.

Other Means of Communication. In all the important cities of Java and Sumatra there are automobiles and carriages belonging to hotels and available for sight-seeing tours of guests. There are also the two-wheeled carriage called 'sado' (derived from *dos-à dos*), which, though not very fast, is used generally because of its cheapness, and the team carriage called 'ebro.' For travelling in the interior, a cart pulled either by a horse or an ox is used; but this cart is not provided with springs and is a very uncomfortable vehicle to ride in for any long distance. In Sumatra there are government vehicles, operated by agents specially appointed by the government. These vehicles are open to the public use at fixed fares, except on occasions when they are mustered for government use. The agent has his headquarters in the capital of each province and branch offices at various points of the route traversed by his cars. For mountain trips horses and sedan-chairs are used. (Fares and other particulars are given in the section on each locality.)

Post, Telegraph, and Telephone. According to the report of 1914, the number of both official and private post and telegraph (including wireless telegraph) offices in the Dutch East Indies is as follows:

Java and Madoera 542, Sumatra 175, Borneo 30, Celebes 53, other islands 69; total 869.

***Post*:—Postage Rates for Ordinary Mail.**

		Dutch E. Indies, domestic. *cents.*	By mail steamers direct to Holland. *cents.*	Within the Postal Union. *cents.*	Outside the Postal Union. *cents.*
Letters	up to the first 20 grs.	10	10	12.5	37.5
	each additional 20 grs. or fraction.	7.5	7.5	7.5	37.5
Cards	single	5	5	5	12.5
	return	10	10	10	25.
Business Documents	per each 50 grs.	1	2	2.5	7.5
	minimum	5	10	12.5	37.5
Printed Matter	per each 25 grs. of newspapers.	0.5	—	—	—
	per each 50 grs. of other printed matters.	1	2	2.5	7.5
Samples of Merchandise	per each 50 grs.	1	2	2.5	7.5
	minimum	2.5	5	15.0	15.0

Note: For any postal matters posted without stamps, double the above rates shall be charged, and any shortage shall also be charged double, the minimum of such charge being 2.5 cents.

a. Registration Fee, 10 cents per piece, both domestic and foreign.

b. Fee for the Receipt of Delivery (over and above the postage and registration fee), 5 cents for domestic mail; 10 cents for foreign mail.

c. Special Delivery, 25 cents below 3 km.; 50 cents from 3 to 6 km.; specified rate above 6 km.

d. Domestic P.M.O.: The maximum sum is *fl.* 1,000 or *fl.* 250 at branch post-offices)—12.5 cents for below *fl.* 25 and 12.5 cents for each additional *fl.* 25 or fraction thereof.

e. Foreign P.M.O.: The maximum sum is *fl.* 500, (£40, fr. 1,000, $100 (gold), and ¥400). For America and England (no P.M.O. connection with the British colonies), the rate is 15 cents for below *fl.* 10. For other foreign countries it is 12.5 cents for below *fl.* 25. Besides this, 10 cents shall be charged for the receipt of delivery, and no such receipt shall be given for orders sent to America.

Note: For Holland and her territories, 3 to 4 cents per *fl.* 1 shall be charged.

f. Collection through P.M.O.: 5 cents for below *fl.* 500 and the registration fee of 10 cents. When collected, the rate of the ordinary P.M.O. shall be deducted, and the remaining sum shall be delivered to the applicant.

THRESHING RICE.

g Parcel Post: The maximum weight for domestic parcels is 5 kgs.

(1) The maximum weight for parcels carried by steamer or train is 5 kgs. apiece, and the volume shall not exceed 25 cubic dm., nor the length 60 cm.

(2) The maximum weight for parcels carried by the postman is 3 kgs. apiece, and the volume shall not exceed 6 cubic dm., nor the length 40 cm.

The rate is 25 cents for each kg. or less, 30 cents above 1 kg. and below 3 kgs., and 35 cents above 3 kgs. and below 5 kgs. Besides this rate, an additional rate, varying according to the distance and transportation facilities, is charged. A distance of 125 geographical miles constitutes one section.

The declared value of parcels shall not exceed *fl.* 250 apiece, and 10 cents shall be charged for *fl.* 150 or less.

The maximum value of a parcel sent with an order to collect its price shall not exceed *fl.* 250. When received and collected, the fee of 5 cents apiece and the rate of the P.M.O. corresponding to the value of the parcel shall be deducted, and the remaining sum shall be paid to the applicant.

Foreign Parcel Post: The rate varies for different countries.

Telegraph: The total length of the telegraphic communications in the Dutch East Indies is 11,274 km., of which 4,492 km. in Java, 4,972 in Sumatra, 945 in Borneo, 374 in Banka, 168 in Madoera, and 154 in Celebes, are the chief lines. The wireless communication, installed in 1900 and developed until 1911, has seven stations, including both private and official ones: Sabang (near the lighthouse of Sabang on We Island, N.W. of Sumatra), Sitoebond (at the E. end of Java, facing the Madoera Sea), Koepang (on the S. W. coast of Timor), Ambon (or Amboina, one of the Ceram Islands), Navy Department, Batavia (within the navy yard), Balik Papan (on the E. coast of Borneo), and Tarakan (on Tarakan Island off the E. coast of Borneo, near British Borneo). The last two are private stations.

Domestic Telegraph Fees.

Distances	First five words	Each additional word
75 km. and under	25 cents	5 cents
From 75 to 335 km.	50 ,,	9 ,,
From 335 to 1,200 km.	75 ,,	10 ,,
From 1,200 to 3,000 km.	*fl.* 1	12 ,,
Above 3,000 km.	*fl.* 1.25	15 ,,

Foreign Telegraph Fees.

Australia		China	*fl.*
New South Wales	*fl.* 1.565	Hongkong, Shanghai, Amoy, Foochow	1.35
Queensland		Swatow	1.225
W. and S. Australia		Tientsin, Taku, Hankow.	1.60
Tasmania		Canton	1.35
New Zealand		Chefoo, Kiau-chau, Weihaiwei, Peking, Dairen	1.60
Victoria			
Japan	*fl.*		*fl.*
Japan Proper, Chôsen	2.19	The United States of America, about	3.20
Formosa	1.59	European countries, about	2.25

The telegraph service of Java, like its railway, is closed during the night. For the general public, the offices are open from 8 a.m. to 6 p.m. Messages received from various parts of the islands and from foreign countries are delivered immediately after their arrival; but, owing to the long closed hours, even within distances of a few hundred km. only, and in the same territory, unless a message is sent early in the morning, an answer cannot be obtained the same day. On the other hand, a foreign despatch, sent by the cable of

a private company, can frequently be answered, if the sender is in the vicinity of the cable station, within the same day and earlier than the domestic message.

Telepoones were first installed in 1881. Most telephone companies were private enterprises; but during the last ten years the government has been trying to buy them out, with the intention of converting the whole system into a government enterprise. The telephone business of the three cities, Batavia, Semarang, and Soerabaja, was first transferred to the government, and Djokja, Solo, and other cities followed their example one after another, and finally the long-distance telephone between Batavia and Buitenzorg, that between Batavia, Cheribon, Semarang, and Soerabaja, and others, have been transferred to the government since 1914.

Chapter II. General Remarks on the Dutch East Indies.

I. Land and Inhabitants. *Position*:—The 'Dutch East Indies,' the collective name of the islands scattered between the S. E. end of the continent of Asia and the N. W. end of Australia, extend from 95° to 141° E. long. and from latitude 6° N. to 11° S. and are exposed to the waves of the Pacific Ocean, China Sea, and Indian Ocean. The Dutch call them the Ost-Indische Archipel, the English the Malay Archipelago, the Germans die Malayische Archipel or Indonesia, the French l'Archipel Asiatique. Sometimes they are called Austronesia, which is the proper etymological name. The noted Dutch novelist, Ed. Douwes Dekker, referred to them in one of his novels under the attractive name 'Insulinde.'

As to the geographical division of these great groups of islands, there has been considerable disputation from the scientific point of view, but the divisions usually followed are: (1) the Greater Soenda Islands, that is Sumatra, Java, Borneo, Celebes, and all the smaller islands scattered about them. (2) the Smaller Soenda Islands, that is the long stretch of islands extending from Bali to Timor. (3) the Molukken Islands (Moluccas), and (4) the W. part of New Guinea.

Area and Population:

Islands	Area (Sq. miles)	Population (Census of 1905)	Official Estimate, 1912
Java & Madoera	50,554	30,098,008	36,015,434
Sumatra	161,612	4,029,503	4,792,990
Riouw-Lingga...	16,301	112,216	187,460
Banka	4,446	115,189	113,653
Biliton	1,863	36,859	58,480
Borneo	212,737	1,233,655	1,372,459
Celebes	71,410	852,405	2,677,691
Moluccas	43,864	407,906 (including New Guinea)	761,072
Timor	17,698	308,600	950,067
Bali & Lombok	4,065	523,535	1,207,310
New Guinea	151,789	200,000	—
Total	736,000	38,000,000	48,000,000

N.B. As to the area and population of the Dutch East Indies, the figures of all islands except Java and Madoera must be accepted with considerable reserve.

Geography: According to the opinion of scientists, Sumatra, Java, and Borneo once formed the S. E. part of the continent of Asia; they hold that the varieties of mammals and fossils unearthed show plainly that these islands were a part of the extensive continent of Asia until about the third century. A similar authentication may also be applied to the case of the E. islands, such as the Moluccas and New Guinea, which once formed a part of the continent of Australia. A characteristic native animal of Australia the opossum—is also found in New Guinea. Thus, formerly there were but two great continents in this part of the world, and these two were separated by the sea from 3,000 to 21,000 ft. deep, below which lies the lowest surface of the earth. A few islands scattered in this dividing part of the sea present characters entirely different from other shallow-ocean islands.

Java. This island is 1,065 km. long and 130 km. wide and has an area of 50,000 sq. m. It is a part of the great mountain ridge that extends from Burma to the Moluccas and was shaped into its present form—combining together several smaller islands—by the activity of its volcanoes. Its mountain ridge runs eastward from its W. end, diverging from the centre a little toward the S. The N. slope is generally gentle, but the S. side is rough and steep. Most of the mountains of the island are volcanic. In fact, the volcanoes of the island number as many as one hundred and twenty-five, of which some are active even now.

Important Mountains are: Karang, rising on the E. coast of Sunda Strait (1,775 *), noted as a beacon of navigators, Salack (2,211), Pangerango (3,019), Gede (2,953), all rising in the vicinity of Buitenzorg; farther E., in the province of Preanger, to the N. of the railway, Tangkoeban Prahoe (2,076), Tampomas (1,684), and to the S. of the railway, Malabar (2,343), Papandajan (2,666), Tjikoeraj (2,821), Galoenggoeng (2,241), Sawal (1,763), and others; still farther E., on the border of the provinces of Pekalongan and Semarang, Prahoe (2,565); in the province of Kedoe, Sendro (3,011) and Soembing (3,371); on the border of the province of Soerakarta, Merapi (2,911) and Merbaboe (3,145); then on Point Japara on the N. coast, Moeria (1,593), and Lawoe (3,269), and Koekoesan in the southern part, on the border between the provinces of Soerakarta and Madioen; on the border between the provinces of Madioen and Kediri, Wilis (2,168), Pasar (2,289), Drawati (2,556), and others, on the N. W. border, Ardjoeno (3,333), and in the middle of the province, Bromo (2,390) and Smeroe (3,676), and on the border between it and the province of Besoeki, Lamongan (1,640); on the N. E. border of the province of Besoeki, Raoeng (3,332) and Merapi (2,800). Of these, the highest is Mt. Smeroe in the province of Pasoeroean, and the most important volcanoes are Lamongan, Smeroe, Merapi, Gede, Bromo, Tangkoeban, and Prahoe. Thus, two-thirds of the island are occupied by mountains; but in the regions of Bandoeng and Garoet in the province of Preanger, the middle part of Kediri, the region of Malang in the E. province of Pasoeroean, and the region of Ijen in the province of Besoeki are found fairly extensive plateaux.

Ports:—As has already been said, the N. coast of the island slopes gently down to the submerged tableland connected with Borneo, so that the water on this side of the island is just deep enough and calm enough for navigation purposes, and, though there is no ideally perfect natural harbour, ports good enough for ordinary needs are found almost everywhere along the coast. On the other hand, the S. coast rises directly from the deep bottom of the Indian Ocean and has very few harbours. Generally speaking, the N. coast from its

* All heights are expressed in metres.

N. W. end to its middle part, Point Japara, is low, flat, and swampy. The only good port on this part of the coast is Batavia. E. of Japara the coast is also low and the water shallow; it has two ports, Rembang and Toeban, which, however, are not very important. Farther E. there is Port Soerabaja, which is the greatest trading port in the whole island. E. of this, facing Madoera Island, the sea is very shallow, and in this part are the ports of Pasoeroean, Probolinggo, Besoeki, and Panaroekan. During the season of the E. wind, the sea is rough and the ports do not afford a very good protection; but, as all these regions are famous sugar-producing districts, during the sugar season these ports become busy trading points. Farther E., in Bali Strait, is Port Banjoewangi, which is the junction point of the cable to Northern Australia. Turning there to the S. coast, washed by the waves of the Indian Ocean, the character of the coast is seen to be very different. There is no port worthy of mention, except, perhaps, Port Tjilatiap. Turning the S. W. point of the island, there are two ports, Laboean and Anjer, which are connected with Batavia by rail, and also with the various points of the S. coast of Sumatra by steamer.

Volcanoes and Hot Springs: As already stated, the present Java was made by the action of its volcanoes, which cast out immense quantities of lava, filling up the shallow spaces between various smaller islands and thus joining them together into one greater island. Volcanoes are not always a calamity; on the contrary, the present prosperity of Java is partly due to its hot mineral springs, various beautiful mountain resorts, and the fertilizing properties of the materials cast out by its volcanoes. In fact, the prosperous cities of Java are all situated at the feet of volcanoes.

The mountain ridge of Madoera is a branch of the main ridge of Java, and, though the island is generally hilly, there is no very high mountain. The highest is Tamboeboe, which does not exceed 470 metres.

Rivers: The rivers of Java, like those of Japan, are numerous, but, with two or three exceptions, they are narrow and their currents are rapid, so that they are of very little use for the purpose of communication. Especially are those flowing down to the S. coast short and their streams very rough. Those of the N. coast, however, flow across fairly extensive plateaux, and their waters, which carry natural fertilizer from the mountains, can easily be utilized for irrigation purposes. The largest river is the Solo, which is 540 km. long and irrigates 15,423 sq. km. along its course. It rises in Mt. Merapi, on the border of the province of Solo and Kedoe, and, traversing the middle part of Solo, its main stream flows down through the centre of the province of Rembang to the province of Soerabaja, whence it continues its course under the name of the Bengdwan to the N. of Port Grisee. Except in the dry season of August, September, and October, its upper stream is navigable for about fifty miles, in a flat boat of four or five tons. Before the construction of the railway from the city of Solo to the mouth of this river, it was the only means of communication for this route, but at present it is important chiefly for irrigation purposes. The next largest river is the Brantas. This river rises on the S. border of Kediri and runs through that province to the province of Soerabaja, from which one branch stream flows on under the name of the Kalimas to Port Soerabaja, and another, called the Polong, flows out to the Madoera Sea to the N. of Port Pasoeroean. It is 314 km. long and irrigates 10,608 sq. km. along its course. Other important rivers on the N. coast are the Taroem (starting from the province of Preanger and running northward through the province of Batavia), the Mancek (starting from Preanger and flowing through Cheribon), the Oedjoeng (flowing through Bantam), the Sampean (flowing through Besoeki), the Serang (flowing through Semarang), the Pemali (flowing through Pekalongan), and the Serajoe (flowing through Banjoemas) on the S. coast.

Sumatra Island lies directly under the equator and extends for six degrees on both sides of the line. It is 1,000 m. long and 250 m. wide in its widest part. In size it ranks next to Greenland, New Guinea, Borneo, and Madagascar, having an area of 160,000 sq. m. Its population is 5,000,000. In other words, it is four times as

large as Java, fourteen times as large as Holland, and slightly less than half the size of Germany.

Its geography closely resembles that of Java. All that has been said about Java applies to this island also. The high mountain ridge, called Barisan, and sometimes the 'Sumatran Alps', runs through the entire length of the island along its S. W. coast. There are about one hundred volcanoes known to the world, twelve of which are still active. Mentioned in order from N. to S. they are as follows:

Sinaboeng (2,417)*, Sebajak (2,172), Poesoek Boekit (2,005), Sorik Merapi (2,145), Pasamau (Talamau or Ophir, 2,912), Singgalang (2,877), Merapi (2,891), Talang (2,597), Koerintji (Indrapoera, 3,805), Kaba (1,952), Dempo (3,159), Krakatau (on an island in Sunda Strait, 822).

Each of these volcanoes has a history of one or more terrible eruptions, and especially terrible were the eruption of Kaba from 1875 to 1878 and that of Krakatau in May of 1883.

Rivers: In this respect, also, the island resembles Java. That is to say, on the W. coast and in the N. E. part of the island there is no large river; but in the S. half of its E. part, where the land extends in a wide plain, there are several large streams. Named in order from the N. they are: the Asahan (which, starting from Lake Toba, flows into Malacca Strait), the Bila, the Panai, the Rekan, the Siak, the Kampar, the Indragiri, the Djambi (or Jambi), the Moesi (or Musi), and others.

The Djambi is the largest river in the island, and in the region of Djambi it is 400 metres wide and 5 metres deep, and twice as deep at the time of full tide. The Moesi is the next largest, and it carries down a considerable amount of sediment from the region of Palembang to its mouth, where it is gradually forming a delta. This river has long been, and still is, the chief means of communication between the regions along its course.

Lakes: Like Java, this island has many lakes made by the activity of its volcanic mountains. The most famous is the Lake of Toba (Meer van Toba), at the foot of Mt. Sinaboeng in the S. part of North Sumatra (see P. 482). In the central part of the island are three lakes, Manindjau, Singkarak, and Kerintji, and in the S. part Lake Ranau.

Borneo. This island is the third greatest island of the world and has an area of 210,000 sq. m., which is about eight times as large as Java and more than eighteen times as large as Holland. The Dutch territory, in its southern part, occupies three-fifths of the entire island. Its surface consists chiefly of Tertiary deposits. Geologically Borneo differs from other islands of the Dutch East Indies, in that it is the only one in which rocks older than the Tertiary period have been found, and also that there are, comparatively, far fewer volcanoes than in the other islands. Its coastal regions, except the N. and N. W. parts, are generally low and swampy, and the larger part of the island is covered by primeval forests untrodden by the foot of man. There are also many rivers, large and small, all rising in the middle mountain ridges and flowing in all directions to the sea.

Mountain Ridges: The main mountain ridges run from N. E. to S. W., sending out branch ridges in all directions. There are also several branch ridges in the central part of the island, but none of these compare in magnitude with the main ridges. Enumerated from the N., the main ridges are Iram, Müller, and Schwaner, and the middle branch ridges are Boven Kapoeas in the W. and Bawoei in the E. The highest peak in the main ridges is Goenoeng Kinibaloe (4,170) in the North British territory. This is the highest mountain in the whole archipelago. Other high mountains are Mt. Limbakaoeli

* All heights are expressed in metres.

(3,333), Bukit Batoe Tibang (1,702), Mt. Kerihoen (1,790), Bukit Raja (2,278). All these mountain ridges become lower towards the S., where they rarely rise as high as 1,500–1,700 metres. Some of the southernmost mountains, like Satoei, are as low as 310 metres. Isolated peaks are seen mostly on the N. W. coast.

Rivers: Borneo may be called the island of rivers as well as the island of forests. It has many rivers flowing in all directions, and most of them are navigable, some for a distance of several hundred miles. Though these streams carry down sand and mud to their mouths, converting them into swampy deltas injurious to health, yet in an island like this, which has no well-developed system of roads, they are the chief means of communication. Besides, the fertility of the island is largely due to these rivers, which irrigate the whole of the regions along their course.

The largest river flowing towards the W. coast in the Dutch territory of Borneo is the Kapoeas, which has its source in the central mountain ridge and flows for a length of about 700 miles. It is navigable by a paddle-steamer for a distance of 240 miles from its mouth to Sintang. Other large rivers flowing towards the E. coast are the Sesajap and the Selar (flowing into Celebes Sea) and the Mahakam, or Koetei, (flowing into Makassar Strait). The largest river flowing towards the S. coast is the Barito. This river is 570 miles long and at its mouth is Port Bandjermasin. From this port to Batoe Poetih it is navigable by a paddle-steamer.

Lakes: There are many lakes, but they are all small and do not compare with those of Sumatra.

Celebes. This island and another island E. of it, called Halmaheira (or Djailolo), are of a very unique shape. Each has four narrow peninsulas, one each in the N., N. E., S., and S. E. directions, and those of Celebes embrace three bays between them, namely Tomini (or Gorontalo), Tomori, and Boni. All of these inlets are deep and have many good harbours along their shores; but on the W. coast there is only one bay, and the coast line of this bay is so straight and its water so deep and rough in some seasons, that on this side there is hardly a single good port. On the whole, however, the coast line of this island is so irregular that its length is comparatively very long,—as long as that of France and Spain put together.

Mountain Ridges: A volcanic mountain ridge runs from S. to N., and this ridge is a part of the great ridge that connects the various islands of the Dutch East Indies with Mindanao and other islands in the Philippines. There is also a branch ridge running from the main ridge to the E. and S. E. peninsulas. All the mountains of this island are volcanic, though at present none are active. They are more numerous in the N. peninsula, and the highest are Goenoeng Kalabat (2,030), G. Matinang (2,050), G. Soempoe (1,827), and G. Lokon (1,592), all of which are in or near the N. end. But higher mountains than these are found in the S. About in the centre of the S. peninsula, facing Boni Bay, is Latimodjong (3,000) and farther S. of it is Bukit Lompo Battang (3,942), which is the highest mountain in this island. These mountains produce ebony, rattan, copal, etc., and in the mountains of the N. peninsula gold and silver ores are frequently found.

Rivers: Owing to its narrow and hilly physical structure, there are no large rivers in this island. The longest are the Sadang (250 m.), which rises in Mt. Latmodjong and flows into Makassar Strait, the Lariang, which empties itself on the W. coast, and the Bahoe Solo (150 m.) in the S. E. peninsula.

Lakes: There are many lakes in the island, and the largest is Tawoeti. Near this lake is an iron-mine worked by natives in an old, primitive fashion. Other large lakes are Tempe (or Temparang) and Sidenreng in the S. peninsula, Posso (321 metres deep) in the centre, and Tondano in Minahassa in the N. peninsula. Tempe was a dry lake up to 1888, but now it is full of water. Tondano is situated at an elevation of 692 metres and is noted for the beautiful

scenery of its shore and its cataract, which is the largest in this island. Lake Limbotto near Gorontalo is also famous.

Plains: There are no such extensive plains as are found in Java, but the plateaux of Minahassa in the N. peninsula and of Mongondo and the plain of Gorontalo near Lake Limbotto are fairly extensive. Besides these, the entire middle region, from the foot of the mountain to the coast, is more or less flat and is covered with thick vegetation. This region is well adapted to the cultivation of coconut.

Inhabitants. The inhabitants of the Dutch East Indies are a conglomeration of many races, but they can be divided into two large classes, namely, natives and foreigners. The latter class includes Europeans, Japanese, Chinese, Hindoos, Arabians, and other Asiatics.

(1) ***The Natives.*** According to the report of 1905, the total native population was 38,000,000. Racially, they are very complex, and even now there is no well-defined classification. Generally speaking, they belong to one linguistic family, namely, Malay Polynesian, recently called by the new name, Austronesian. There are, however, two races that cannot very well be included in this classification. They are the natives that live in the larger part of Ternate, Tidore, and Halmaheira Islands, and the Negritos, who resemble Negros and live in the Philippine Islands, the Malay Peninsula, and the Riouw-Lingga Islands of the Dutch East Indies. In the following table they are classified, according not merely to linguistic distinctions, but also—which seems a more reasonable consideration—to the places of their habitat:

Indonesians	(1) Malays	
	Pure Malays or Malays proper	The middle part of Sumatra (especially the eastern part of the western coast, at the back of Batavia; Riouw-Lingga Archipelago; Java (especially Batavia and other ports), Borneo (eastern, southern, and western coasts).
	Sundanese—	Java (western part, especially Preanger)
	Javanese	Java (middle part, especially in the region from Cheribon to Soerabaja and Pasoeroean) and Borneo (southern coast).
	Madoerese—	Madoera Island and Java, Pasoeroean.
	Balinese—	Bali Island and Lombok Island.
	Boeginese	Celebes (especially the southern part and coast regions and Borneo (eastern coast).
	Makassars	Celebes (the western part of the southern coast).
	(2) Other Races	
	Bataks	Sumatra (Batak-Landen & Tapanoeli) and the eastern coast of this island and the neighbouring island.
	Dayaks	Borneo (in the interior and various parts of its coast).
	Alfouren (Alfours)	The northern part of Celebes, Minahassa and the Moluccas, and the Soeloe Islands.
Melanesians	(3) Papuans	New Guinea, Waigeoe, Salawali, Aoe Islands, Ceram, Kei Islands, Timor, and Flores.
Negritos	(4) Negritos—	Riouw-Lingga and Kalangs in Middle Java.

Other more or less important races from anthropological, historical, and political points of view are Minahassa, Gojos (the northern mountain region of Sumatra), Achinese (the northern end

of Sumatra), and Tenggris (in the volcanic mountain, Bromo, of Java).

Note: Some authorities classify Alfourens as Negritos. There are also other small races, such as Tradja, Gorontalo, Merauke, and others, living mostly in New Guinea and on the southwestern coast of Celebes, who are attired differently and speak different dialects. But they are a mixture of two or more of the above races, separated from the rest only by circumstances. In short, the native inhabitants of the Dutch East Indies are mainly Malays and Indonesians. The other two races constitute only a very small part of the total population.

(2) ***Foreign Inhabitants.*** Of the foreign inhabitants of the Dutch East Indies the most numerous are the Chinese. According to the census of 1905, they numbered as many as 560,000, of whom 290,000 are in Java and Madoera and the rest in the Outer Possessions. They are superior to all other foreign races, not only numerically but in their wealth and industrial influence, and this firmly established prosperity of theirs is largely due to the fact that they settled in these islands much earlier than other foreign races. Indeed, they have been, and still are, the pioneers in all these islands.

In the gold and diamond mines of Western Borneo, the tin mines of Banka and Biliton, the tobacco industry of Sumatra, and all other important industries, they surpassed the Dutch. At present they are engaged in almost all branches of business in these islands, but generally the Chinese of Java and Madoera are mainly merchants and manufacturers, while those of the Outer Possessions are largely farmers. Of the manufacturing industries of Chinese the most common are shoe-making, furniture-manufacturing, metal-work, *batik** industry, and manufacturing of various articles for the use of Europeans. Many rich Chinese have large investments in real estate. It is estimated that the number of Chinese immigrants coming annually from the southern part of China to Sumatra to supply the shortage of labourers in its tobacco industry is 25,000.

Arabians form the next most numerous foreign race, numbering 290,000, two-thirds of whom live in Java and Madoera and the rest in the Outer Possessions.

They came to these islands even earlier than the Chinese. Some came as early as the 10th century for trading purposes, and in the 14th century, when the influence of Mohammedanism was at its height, their religious activity resulted in the overthrow of the Hindoo Kingdom of Java. But their settlement in the islands in any considerable number began only about fifty years ago. In 1859, the total number of Arabians in Java did not exceed 5,000, but in 1905 it reached the above great figure. Partly for their religious prestige and partly for their great stature, they are much respected by the natives. Mingling with native chieftains, and even related by the marriage tie to noble native families, they are in a position to exercise considerable political influence. Their chief occupations are usury and other petty trades. The number of them engaged in agricultural and manufacturing industries is very small. They are both greedy and thrifty, but they are rarely as prosperous and as rich as the Chinese.

The next important foreign element, though much less numerous, is represented by the Hindoos. Their intercourse with these islands is of long standing and of an intimate character, but the glory of their ancient religious civilization, which once left its impress in Java and Madoera, is now nowhere visible. Besides, their descendants are now so intermixed with the natives, that they no longer retain the distinctive characteristics of their forefathers.

* *batik* means 'to draw upon cotton cloth with melted wax.'

The only trace now left of them is found in the Balinese, whose persons and manners still show the characteristics, though faint, of the Hindoos and their great religious civilization. The present Hindoo immigrants come from the lowest class, mostly in order to fill up the shortage of labourers in the oil-industry of East Sumatra and East Borneo. Some are employed as policemen, there are also many farmers, rikishamen, and peddlers.

Besides these, there are about 3,000 Japanese and 80,000 Europeans (according to the report of 1905), of whom seven-eighths are Dutch, about 1,000 are Germans, and the rest are English, French, Swiss, etc. In this census the number of soldiers on garrison duty is not included.

II. Fauna and Flora. **Fauna**:—The fauna of the Dutch East Indies can be classified into two great classes—one typical of the Asiatic continent and the other of the Australian continent. As has already been stated in the remarks on the geography of the archipelago, (see P. 348), the islands are divided into two great divisions by the deep sea of Banda, on one side of which are Sumatra, Borneo, Java, and other smaller islands, and on the other side are New Guinea, the Moluccas, and others. The classification of their fauna corresponds to this geological division. Celebes is situated in the middle of this division, and its western and eastern parts represent respectively the characteristic fauna of each one of these two great classes. The mammals belonging to the Asiatic class, and found in the corresponding division of the Dutch East Indies, comprise such large animals as Konings tigers (Royal tigers), halfway up the mountains of Sumatra and Java, panthers at the top of these mountains and also in Bali Island (they are now rare in Java, but still abundant in Sumatra and Borneo), bantengs (one of the shyest of big animals, a species of wild ox), mostly in Java, Sumatra, and Bali Islands, elephants and tapirs in Sumatra (the elephants of North Borneo were originally brought from Sumatra), Malay bears in Borneo and Sumatra, deer and wild boars in Sumatra, Java, and Borneo. The Australian type of animals found in the Dutch East Indies is represented mostly by opossums (Buideldieren). They are abundant in New Guinea and other islands of the same division.

(a) ***Java.***—Of the large wild animals of Java, rhinoceroses, black panthers, and spotted panthers are the most common. In the middle of the island, tigers are found in abundance. There are also many wild boars, wild oxen (banteng, Bos sondaicus), deer, and goats. There is a small species of deer, called 'dwarf deer,' noted for the beauty of its skin. As a unique animal of this island there is the 'gibbon'—the anthropoid ape most closely resembling man. That an animal called pithecanthropus, still higher than this, once lived in the interior of Java is proved by a fossil specimen excavated from the Tertiary deposits in the middle of the island. A flying species of monkey, called lemur, and the one-horned rhinoceros are also unique animals of Java. Of the domestic animals of this island the *kerbaus* is the most important. Others are *sapi*, pigs, and goats. There are above two hundred and seventy kinds of birds, of which forty are indigenous to the island. As usual with tropical birds, they all have beautiful plumage. Snakes abound, as is to be expected in this wooded and hot country, and some species are very venomous. Crocodiles are also abundant. The marine products of the island are rich and numerous and form one of the chief sources of the native's livelihood.

(b) ***Sumatra.***—One of the large animals not found in Java is the elephant, but elephants are abundant in Sumatra, especially in its middle and north-western regions. Tapirs and orang-outangs,

are found in various parts of the island. In the forest region monkeys are very numerous, and sometimes they come into the streets of towns in a great flock, to the great surprise of travellers.

(c) *Borneo.* – The fauna of this island is very similar to that of Sumatra, except that tigers are not found in Borneo. Wild oxen (banteng) and deer are also common animals of this island. Some zoologists hold that the orang-outang originated in Borneo. Panthers are also abundant and the native warriors wear their skins. In the rivers and along the coast, crocodiles are found in great numbers. On the western coast is found a species of dog that has a black tongue.

(d) *Celebes.*—As previously remarked, the fauna of this island includes representative types from the two great continents. In the western coast regions it closely resembles that of Borneo and Sumatra, except that elephants and tigers are not found in this island. Wild oxen, buffaloes, monkeys, and deer are common. On the eastern slope live animals similar to those found in New Guinea and Australia. In the northern regions goats abound, furnishing the natives with their daily meat. Of birds, there is a famous species called 'the bird of paradise' famed for the beauty of its plumage. Butterflies also are characteristic of this island's fauna, being present in countless numbers and infinite variety.

Flora. The flora of the Dutch East Indies is of a very rich and varied character, as would naturally be expected in countries so widely extended and having such favourable climatic conditions. Especially in an island like Java, where the rainfall is abundant and the ground is always moist, the country is covered by the so-called equatorial rain forests, a thick and luxuriant growth of all sorts of shrubbery. The species of shrubs number several hundred. Besides shrubbery, various underwoods, epiphytes, and parasites grow rampant. The average European is wont to think of the palm as the characteristic flora of the Indies, but this is not always the case. In the forests of the Dutch East Indies the palm is not very abundantly found. Other trees not so well known to the world are more abundant and more characteristic of these tropics. Most of these trees, with rare exceptions, retain their leaves throughout the year. In Java, the plains are mostly converted into cultivated fields, and forests are found only in mountainous regions; but in Sumatra and Borneo, the plains are mostly covered with forests, the most notable trees in them being figs (Ficus).

The fig has very many species, those of Java alone numbering as many as sixty to seventy. The most important species is Urostigma. From the manner of their growth all figs can be classified into five types. The first type has only one trunk and no air roots and is used everywhere as the ornamental or shade tree of spacious grounds; the second type grows several trunks in a bunch as one tree, and its root constantly shoots out a new trunk, which when fully grown becomes a part of the trunk of the mother tree; the third type has one trunk, from which spread out right and left horizontal branches, and from these branches numerous air roots hang down like a net, while those that reach the ground take root and grow like trunks side by side with the mother trunk. The number of these side trunks grown from one tree is generally from fifty to one hundred, and occasionally there are as many as three hundred. This type is called *Waringin* by the natives and the Indian fig by Europeans. Urostigma benjaminum is a species of this type. The fourth type, represented by Urostigma elasticum (Ficus elastica), is the most famous one, and it has one trunk from which grow numerous air roots. This is the tallest type, and some specimens grow as high as 60 metres. The sap extracted by cutting the skin of the lower trunk, when exposed to air, congeals to what is called kaoetsjoek (gum elastica). The last type is quite different from the others. It grows epiphytically; that is to say, the air roots growing

out of the mother trunk reach the ground and then grow clinging tightly round the mother tree, until they strangle it to death.

Another unique tree, that flourishes in the tropical climate of the Dutch East Indies, is the mangrove, growing on the coast. Rhizophora mucronata is the most important species. It grows in moving water and possesses remarkable resisting power against waves. The tree attains to a height of from three to seven metres; its roots are bow-shaped and very tough and spread out in all directions. At full tide the leaves of the lower branches are immersed under water, showing only the upper part of the tree above the waves. The leaves resemble those of Ficus elastica; they are dark green and grow in a cluster at the end of the branch. In the forests in regions of high elevation, oaks and chestnuts are found in abundance. The species of oaks in Java alone number as many as twenty-five, and their leaves are quite different from those of the oaks found in Europe. Another characteristic plant is the tree-fern, which is sure to produce a unique impression of tropical nature on the mind of the visitor. In higher regions orchids grow rampant, and in wet and rainy localities are found many parasitic plants and moss. Moss is especially abundant in the middle regions of Borneo, where the trunks and branches of trees are covered with it, sometimes to a thickness of two feet. In Java, moss does

A Market Scene in Java.

not thrive except in the very high regions, but in the middle part of Borneo it grows even at an elevation of only 1,000 metres. It is also one of the characteristics of the forests of the Dutch East Indies, that sometimes in one great, extensive forest only one kind of tree is found growing. Such is often the case with forests of Djati, one of the rare deciduous varieties. This variety grows mostly on hills of which the soil is rich in lime, and it is noted for the hard and strong timber it produces. Another interesting variety that grows in the high regions is Tjemera, a species of Casuarina, so called because its leaves resemble in shape the plumage of the cassowary. The bamboo, because of the great size to which it attains, may also be considered one of the characteristic plants of the Dutch East Indies.

Java.—Besides the trees already mentioned, palms are abundant in Java. Nipa fruticans (dwarf palms) grow in the regions along the coast and rivers, and their leaves (called *atap*) are used for

thatching roofs. Maripa, cycadeus, and pandanus are beautiful species growing in similar regions. On the plains and at the foot of mountains grow pisang (banana), coco-palm, aren (or sugar-palm), fan-palm, lontar, rattan (*rotan* in Malay) or climbing-palm, etc. Almost all kinds of palm are found in the island, and they combine both beauty and utility. The most useful kinds are the sago-palm (the Malay *pohon suga*=Metroxylon sagus roxb.), sugar-palm, and toddy-palm. Bamboo is also an important plant of the island. Altingia excelsa, which grows as tall as 160 ft., is noted for the timber it produces. Tree-ferns and climbers are also abundant. At the foot of the mountain, many plants of the European temperate zone are seen growing side by side with tropical plants. Of these, especially important for the timber they produce, are the oak, maple, lime, ilex, chestnut, pine, etc. In regions of greater elevation than 6,500 ft., nothing is seen but wild bushes, except during a short time after the rainy season, when violets and other flowers common in Europe are seen growing side by side with *antjar*, or Antiaris toxicaria, and other poisonous plants indigenous to this island, and also such flowering plants as nepenthes and begonias.

Sumatra.—The flora of the N. part of this island resembles that of India and of the S. part that of Java; but, in the number of varieties and lavishness of growth, the flora of Sumatra surpasses those of India and Java. Generally speaking, the trees of this island grow taller than those of Java. To mention only a few rare varieties characteristic of this island,—there is Rafflesia (which is noted for its large, peculiar flowers, measuring from 20 to 24 inches in diameter, and sometimes as much as 36 to 40 inches), *alang-alang* and *glaga*, which grow in extensive wildernesses. The latter is a species of shrub growing three or four feet high, and it kills all other trees by depriving them of their nutrition, which it monopolizes for itself. It has no virtue except that it affords an excellent refuge for animals. It grows mostly in regions above 800 ft. Of useful trees, besides all species of palms, there are found several other kinds from which timber, gum, and resins are obtained. Camphor, cinnamon, pepper, areca-nut, and bezoin are also fairly abundant.

Borneo.—The entire island is covered with forests, from which can be obtained all sorts of timber and resins. The flora of its W. part is closely allied to that of India and Sumatra, while that of the S. E. part is related to that of Australia. The most important tree of Borneo is the sago-palm, which grows all over the island, and the sap of which, when extracted and pressed into the form of a cake, can yield about 650 pounds of good food for a few days' labour. This amount is enough to feed one native for a whole year, and for this reason the natives of Borneo are naturally idle.

Celebes.—This island has also a rich and luxuriant flora. The flora of the W. half resembles that of India and that of the E. half that of Australia. All varieties of palms, and cinnamon, nutmeg, and clove-trees grow in this island. Also tree-ferns and orchids are very abundant. In the interior are found, besides coffee and

tobacco, various wild trees which yield good timber for building purposes. Antiaris toxicaria lesch, from which is produced the poisonous medicine known as *upas*, is found in this island.

III. Administrative System. The Dutch East Indies are administered by a governor-general, appointed directly by the Sovereign of the Netherlands. Except the right of making treaties with foreign powers, of ceding any part of the territories, and of spending money in excess of the budget, all other rights pertaining to the administration of the islands are entrusted to him. He is the supreme commander of the colonial army and navy and can proclaim war against, or make peace with, any native chieftain. He has the right to issue, with the sanction of the Sovereign, all sorts of ordinances and regulations concerning the internal affairs of the territories, provided that they do not violate the constitution. He has also the right to appoint or dismiss military and naval officers and all civil officers, whose rights are not specifically protected by the ordinances or regulations of the mother country. The term of his office is five years, and all that he has done in the administration of the territories is to be reported to the government of Holland through the Colonial Minister, and all orders of that government are transmitted to him through the same authority.

The Central Administration: Its organs consist of nine departments, viz. home affairs, finance, justice, education and industry, public works, agriculture, state business, army, and navy. Besides these there are three other organs—the council of the East Indies, which is a sort of advisory board of the colonial government, the board of account, and the secretariat. Of the above departments, all except the board of account, are under the direct control of the governor. He is assisted by the lieutenant-governor. Each of the nine departments has a director, who supervises the business of his department. The directors of the army and navy departments are appointed directly by the Sovereign and must be officers of the rank of lieutenant-general and rear-admiral respectively. The directors of other departments are appointed by the order of the Sovereign. The board of account is under the direct control of the Sovereign, and its director and six accountants are appointed by the Sovereign's order. The council consists of a vice-president and four other members, all of whom are appointed by the order of the Sovereign. Two of the members must be local officers having administrative experience of the territories, one a judicial officer, and the remaining one the representative of the central government. When the council was first established during the administration of the Dutch East India Company, it had to supervise the policy of the governor-general, but now it is merely an advisory board.

Local Administration: The Dutch East Indies are divided into two great administrative spheres, namely, the lands under direct government and the vassal native states. Java and Madoera belong to the former, and the rest, called 'Outer Possessions,' belong

to the latter. The whole territory, is further divided into thirty-eight provinces.

The central government is at Batavia and in each province is a residency, controlled by a resident. In the Outer Possessions, where supervision of the native chieftain is more imperative, a governor is appointed instead of a resident, but in reality exercises about the same administrative functions as the latter. Some of these governors, like the one over the province of Atjeh, are army officers, and the civil administration is backed vigorously by the power of the army; but these are rare exceptions. Further smaller divisions of the local administration are divisions, regencies, districts, and *dessas* or villages. Under the resident are various subordinate officers, such as the assistant resident, controleurs, assistant controleur, etc. Generally speaking, in rank the governor corresponds to a major-general, the resident to a colonel, the assistant resident to a lieutenant-colonel. In each province is a provincial council, whose members are appointed partly by the people of the province. Its function is to bring the interests of the province before the central government. The controleur was formerly the collector of taxes, who was sent from place to place to collect taxes from natives in the form of coffee and other products. The name has thus become deeply implanted in the native mind, and on that account it is still retained, though the practice has since been changed.

In the Dutch East Indies, Europeans and other foreigners are under the direct control of the colonial government, but the control of the natives is largely entrusted to native chieftains, kings, and nobles, and the local Dutch officers merely supervise them. This policy of the Dutch colonial government has proved very satisfactory, for the native officers not only understand the customs and manners of the natives, but are respected by them, and act as faithful instruments in carrying out the orders of the government.

In Java there are two self-governing provinces. One is the province of Soerakarta and the other is that of Djokjakarta. Soerakarta is administered by the King of the Solo Dynasty, called *Susuhunan*, which once ruled the whole island. At present, this province has an area of 113 sq. m. and a population of 1,600,000, and the ruler receives a liberal payment from the government of Holland. The ruler of the Solo Dynasty is, however, assisted by a Dutch adviser appointed by the governor-general, whose duty is to see that the relations between the king and the Dutch residents in the province remain smooth. He has also a small army of guards controlled and commanded by Dutch officers. The ruler of Djokja, called the Sultan of Djokja, administers a territory of 56 sq. m. with a population of 1,000,000. He is similarly paid by the Dutch government and similarly protected by an army controlled and commanded by Dutch officers. Besides these two provinces, there is another small self-governing territory in the province of Batavia. The rest of the island is divided into many regencies, each having a regent appointed mostly from among the native nobles and well paid by the government of Holland. The Dutch administration of the Outer

Possessions is similar to that of Java in all essential points, though the degree of active interference is different in different localities.

Since 1908, autonomy of civil government has been granted to many cities of the Dutch East Indies, there being at present sixteen such cities:—

In Java:—Batavia, Meester-Cornelis, Buitenzorg, Bandoeng, Cheribon, Tegar, Pekalongan, Semarang, Magelang, Kediri, Blitar, and Soerabaja.

In the Outer Possessions:—in Sumatra—Padang, Palembang, and Medan; in Celebes:—Makassar.

Judicial System: In the Dutch East Indies, the law that applies to Europeans is different from that applied to the natives and other foreigners of the same class. This discrimination is justifiable, since the habits and customs of the natives are in many respects fundamentally different from those of Europeans. For Europeans, there is a local court in each of all the provinces, and a district court in each of Batavia, Semarang, Medan, Padang, and Makassar, and above these the supreme court in Batavia, in which every case is decided by jury. The last appeal can be made to the governor-general. For natives and all Asiatics except Japanese, there is a special court in each district and regency. In these native courts, the local civil officers are the presiding judges. In the court of each regency of the self-governing provinces, the presiding judge is a European, and he is assisted by associate judges consisting of two or three other European judges and some important native officers of the locality. The native chieftain, a Mohammedan priest, and the chief native officer of the village, appointed by the governor-general, participate in the examination of cases, and if the accused objects to the verdict of the court, he may appeal to a higher court. Besides these civil and criminal courts, there are religious courts, one in each regency. Disputes connected with marriage and cases of a similar nature are handled in these courts, and the native officers of the locality and the Mohammedan priests, appointed by the governor-general, are their judges.

IV. History. Of the earlier history of the Dutch East Indies nothing is definitely known, except what can be inferred from their geological conditions and from traditions. Judging from the remnants of the great Buddhist and Mohammedan temples found in Java, it seems certain that for several centuries, beginning from the early times of the Christian era, Hindoo influence was dominant in Sumatra and Java, and it was maintained until 1477, when the capital of the Java kingdom, Madjapahit, built by the Hindoos, was overthrown by Arabian Mohammedans, who had been coming into the island and gradually establishing their influence, while the Hindoo influence had been on the wane. From the year 1511, when the Portuguese were beginning to come to the East Indies, their history becomes more accurate. Even before this, the island known as 'Spice Island' (which is the present Moluccas) was attracting the attention of Europeans. About the same time, Magellan, while on his tour of the world by order of the King of

Spain, came to the Philippine Islands, and this event led to the Spanish interest in the East Indies and its conflict with that of the Portuguese. The quarrel between the two countries was finally settled in 1529 by a treaty in which the sphere of influence of each country was defined. The Portuguese then acquired a considerable amount of new territory in the East Indies and set about the work of fortifying important trading ports. At the same time, they tried to extend their influence over native rulers, sometimes by treaties and sometimes by armed force.

In 1596, a Dutch fleet under the command of Houtman, representing the interests of the Far Eastern Company organized in Holland, came to Bantam at the western end of Java, via the Cape of Good Hope and Sumatra Island, and succeeded in obtaining a trading contract from the natives. This was the beginning of the Dutch influence in the East Indies. In 1602, Dutch East Indian traders organized themselves and established the Dutch East India Company (Oest Indische Companie), in order to cope with the competitive trade of the European powers in the East. The company received a charter from the government and was authorized to make treaties with any native rulers or to proclaim war against them. Not only was it actively engaged in the trade of all eastern countries E. of the Cape of Good Hope and W. of Magellan Strait, but it undertook the work of fortification and the administration of the internal affairs of these countries.

About the same time that the Dutch East India Company was organized, England also organized the British East India Company. For several years these two companies worked side by side in their efforts to develop their oriental trade, but the inevitable conflict of their interests soon began to show itself.

In 1610, P. Both was appointed governor-general of the Dutch East Indies and came to Port Bantam at the western end of Java, together with a company of Dutch immigrants. Unfortunately, the island was then in the turmoil of internal conflict, and he was obliged to leave it for Amboina Island, where the colonial government was established for the first time. In 1618, when J. P. Coen succeeded him, the government was removed to Jacatra (the present Batavia). All English were driven out of the place and it was strongly fortified. For about three centuries after this, the city remained the headquarters of the Dutch East India Company, and, from the middle of the 17th century to the middle of the 18th, the Dutch were able to monopolize all foreign trade of the East Indies. Towards the close of the 18th century, as the result of her revolution, Holland came into armed conflict with England, and Ceylon, Malacca, and the rest of the Dutch East Indies were soon conquered and occupied by the English. Later, by the Peace of Amiens of 1802, the captured Dutch territories, except Ceylon, were returned to Holland. In 1810, when Holland was annexed to France by Napoleon I, the English again occupied the Moluccas and other Dutch territories and drove the French

soldiers out of Java, where the British administration was inaugurated for the first time, under the governorship of Stamford Raffles. In 1816, when Holland regained her independence, her old territories, excepting Ceylon and the Cape of Good Hope, were once more restored to her. But the expansion of the British power in the East could no longer be left undefined, without encroaching upon the Dutch territory, and accordingly, on March 17th, 1824, an Anglo-Dutch treaty was signed in London, by which Malacca, Singapore, Cochin, and all the colonies along the Malabar Coast were ceded to England, while Holland received in compensation Banka, Biliton, and Benkoelen on the western coast of Sumatra. Thus the Dutch came to build up their colonial influence exclusively in the islands, while English influence expanded on the continent. Between 1871 and 1872 England abandoned her claims on Sumatra and in 1895 also ceded the western half of New Guinea to Holland.

About this time James Brooke, under the pretext of inspecting the Dutch territory, came to the northern part of Borneo and conquered the territory of a native ruler, and in 1840 built up the rajahship of Sarawak. Immediately after this, England contrived to make the native ruler of North Borneo cede his territory to her and placed it under her protection. This, of course, led to a dispute between England and Holland; but the former contended that the treaty of 1824 had nothing to do with her acquisition of territory, where the Dutch had no actual interest whatsoever. Thus North Borneo came under British control.

The result of all this is that the present Dutch territory in the East Indies includes Java, Sumatra, the southern part of Borneo, Celebes, the Moluccas, and the western half of New Guinea. During all these years the Dutch had not only to endure all sorts of hardships, inevitable in developing primitive countries like these islands, but also to suffer many sacrifices. The most important of these were the Padri and Acheen wars in Sumatra, the revolt of Dipo Negoro in Java, and the wars of Bali, Boni, and Lombok.

V. Customs and Manners. *Costume:*—As already remarked, the inhabitants of the Dutch East Indies are very complex, but in the matter of dress there is marked uniformity among all the native races. Kings and nobles are dressed luxuriously. Generally they wear flannel or velvet garments, or silk robes with gorgeous embroidery and decorated with gold, silver, and other jewels. In the independent provinces, like Solo and Djokja, when going out, they wear short swords and are accompanied by their followers and protected from the sun's rays by large umbrellas held up from behind by attendants. The sight is just like a procession of an oriental feudal lord. They live also in pretentious mansions. People in general wear half pantaloons, over which they wrap a strip of calico six feet long and from three to four feet wide. That used by the people of the western parts is sewn together at the ends, forming a cylindrical garment, but in the middle and eastern parts they use just a plain strip of cloth. Over the upper part of

the body they wear an ordinary shirt, with open breast and tight sleeves, and on the head a piece of calico, about three or four feet square, folded and tied at the back and pulled out at both ends like horns. In blazing sunshine or on a long journey, they wear over this a wide hat made of bamboo or other material. From the waist they hang a bag in which tobacco and other articles are carried. The people of the upper class also wear Arabian or proper Javanese foot-gear made of leather, but the people of the middle and lower classes go mostly barefooted. In cities and ports many of them wear European clothes with closed necks; but in most cases European clothes are worn only on the upper part of the body, while the lower part is covered with the native *sarong*, and shoes are worn without socks. This costume is their outdoor garb; but at home, except in cool regions, they usually wear nothing but the sarong, which is pulled up high over the breast.

Women's dress is quite different from this and is also very varied. The women of Batavia and its vicinity generally dress in European style. Over their under-vest they wear a shirt waist with tight sleeves and made of a very thin material, called *kabaya* (Portuguese). The shirt waist of the upper-class women is trimmed with lace and fastened in front by pins. When going out of doors, they use small paper sunshades or ordinary European umbrellas. Girls often wear coloured silk or calico over the head, in the manner of Hindoo and Arabian women. In the middle part of Java, they wear a shirt with closed sleeves and without opening either in the front or at the back. Generally speaking, the dress of women of the eastern cities of Java is more elegant than that of Batavian women.

Women fasten their hair up at the back and decorate it with hair-pins, but combs are very rarely used for decorative purposes. Girls wear flowers in the place of hair-pins. Their ears are also decorated sometimes with ear-rings and sometimes with ear-drops, about three-quarters of an inch long and half an inch round, of plated gold. Finger-rings and arm-rings are worn both by men and women. Children are often adorned with leg-rings and ankle-rings. Women carry their babies on their left hip, supported by a piece of cloth about six feet long hung diagonally from the right shoulder and passing around the seat of the baby. They love the fragrant perfume of flowers, and, in order to have it always in their clothes, flowers and roots are put in the bottom of the dress case. In families of the upper class, incense is burned for the purpose. Like the natives of the Malay Peninsula, they chew a certain mixture of betel-nut and lime, in order to dye their lips red, and some women also dye their finger nails red with a certain plant juice, which practice is believed to have the virtue of keeping off evil spirits.

Houses: The natives of the upper class of Java and Sumatra live in respectable houses, built of wood, stone, or brick, after the European or Chinese style, and decorated with peculiar Javanese carvings. But the generality of the natives live in small huts made

of bamboo and bushes. In Western Java the floor is very much raised, in order to keep cattle under it, while in the eastern part it is laid very low. Around the house are planted coco-palms, plantains, and other trees, and the ground is hedged by bamboos and other plants. The house is constructed of logs and bamboo, tied together with rattan and other vines, thatched with *atap* (palm-leaves), walled with palm-leaves, or bamboos, or boards, and floored also with bamboos or boards, with mats spread over them. In the front is a wide veranda, and the sleeping room is at the back. It has no windows, and light enters in through the interstices of the bamboo wall. In the high region at the back of Padang in Sumatra Island live the tribe called Menangkabau, and their houses are different from those of other natives. The floor is built exceedingly high and covered with palm-leaves or zinc plates and the ridge of the roof is shaped like a bow projecting high at both ends. Rice is the chief food of the natives of Sumatra, and rich natives always build granaries by their houses, sometimes four to a house, one at each side, but they are not such big and solid structures as the godowns in Japan. Some of these storehouses are decorated with sculpture or painted red.

Food and Drink: The Mohammedan natives of the Dutch East Indies never eat pork, and the Buddhist natives abstain from eating beef. Their common foods are rice, vegetables, and fruits. In the regions where rice is scarce, it is supplemented or replaced by corn, tapioca, and sago. Rice is the main food, and vegetables, coconut, spices, and a small quantity of the flesh of buffalo or goat or fish constitute the side dishes. Natives are fond of spices, and the chief one they use is pepper; but many other kinds are also used, according to the different tastes of different tribes and individuals. The meal prepared from such materials is carried to the wide front room and set out on the mat. Then the family sit round cross-legged. They hold the food with the thumb and the first two fingers of the right hand. The left hand is used to touch soiled or dirty objects. They drink water directly out of the pitcher, but they hold it so that the water runs into their mouths from the mouth of the pitcher, which is not allowed to touch the lips. Drinking-water is always boiled. Their beverage contains a little alcohol; but, owing to the influence of Mohammedanism, they are never in the habit of drinking to excess. Some smoke opium.

Most of the rich native Mohammedans keep more than one wife, and kings and nobles generally have several wives. Throughout all classes there are many children to a family. Children of the lower classes are taken to work with their parents, as soon as they reach seven or eight years of age; but those of the higher classes do nothing and often turn out profligates and criminals.

In accordance with the custom of Mohammedanism, the natives fast once a year for a period of one month (about October). During this fast month they eat once a day, immediately after sunset, and, as soon as the month is over, they celebrate the fast by preparing a

great feast. As the fast month draws to its close, the natives are busy buying new clothes and paying off old debts, for it is for them the end of the year; like everywhere else, this end of the year is also the season of robbery and various other crimes. The natives love music, and their instrument called piano is very much like the 'koto' of Japan. Its sound, though rather melancholy, is also similar to that of the 'koto.' The Mohammedans have various superstitions peculiar to them.

VI. Religion and Education. **Religion:**—There are various religions in the Dutch East Indies. All Europeans and some natives living E. of Borneo are Christians. The native inhabitants of Java and Sumatra are mostly Mohammedans. In Bali and Lombok islands the natives are generally Buddhists, while the Chinese keep to their peculiar polytheism, though some are Christians.

Christianity: Christianity (in the form of Roman Catholicism) was first introduced to the East Indies towards the close of the 15th century by the Portuguese at Amboina Island in the Moluccas, from which it spread gradually to Celebes, Borneo, Sumatra, and Java. A little later, the Dutch introduced Protestantism at Minahassa in Celebes, and the German Church was also represented in the middle part of Sumatra. In 1807, the Dutch government granted perfect freedom of religious belief in the East Indies, and since then all Christian sects have vied with each other in propagating their beliefs. Lately the English, French, and American churches have been making considerable efforts to convert the natives; but their belief in Mohammedanism is so deep rooted, that the good work of these churches is but scantly rewarded. The total number of Christians in the Dutch East Indies at present is about 600,000.

Mohammedanism: Mohammedans are most numerous in Java and Sumatra, and they constitute more than ninety per cent of the total population of the Dutch East Indies. This religion was first introduced early in the 13th century in Java, and by the latter part of the 15th century it had supplanted Buddhism and Brahmanism. This success was due to the fact that its teaching was well adapted to the grade of the native's intelligence. Indeed, it spread like wildfire throughout the whole of the islands, and Mohammedan priests came to have the controlling influence, not only in the educational and religious affairs of the state, but also in all other civil and moral affairs. This influence is still evident in the fact that they serve as judges in the native courts. Even now the annual number of those who make a pilgrimage to Mecca reaches as many as ten thousand.

Buddhism: Those native Buddhists who refused to accept Mohammedanism fled to Bali and Lombok, where they built many temples. Especially noteworthy is the temple of Boroboedoer, which is considered to be one of the masterpieces of Buddhist architecture. All that is artistic and refined in the customs and

manners of the natives has its source in the Buddhistic civilization of this age.

Education:—In the Dutch East Indies the education of Europeans and those assimilated with them is based upon a different system from that of natives and other foreigners of the same class.

The system of schools intended for Europeans and their equals is as follows (1913):

Middle Schools 15 { public 10 / private 5 }, teachers 260, students 2,420

Common Schools 247 { public 213 / private 34 }, teachers 1,160, students 33,060

The schools intended for natives are:

Common Schools 4,661 { public 1,293 / private 3,368 }, students 446,430 { Java and Sumatra 226,197 / Outer Possessions 220,233

Besides these, there are eight schools intended for the education of native officers. They have 800 students. There are also 3,521 schools, called *dessa-schools*, where simple education is given in the native language. According to the report of 1914, the total expenditure for the education of natives was *fl.* 6,535,547. The middle schools intended for European children are but scantly attended, owing to the habit of Dutch parents of sending their children to Holland, as soon as they reach the age of middle school education. The schools for natives are fairly well equipped, but they, too, are not very well attended.

In Java there are several professional schools. One is the medical school of Java, intended for the education of native physicians. The others are industrial schools. Lately the Dutch government has been trying to spread this sort of education throughout the country; but in a tropical country like Java the development of manufacturing industries is apt to lag behind that of agriculture, and consequently in the industrial schools of Java agricultural education receives the most attention. Other branches of technical education are but mere adjuncts to it. Of the common agricultural schools established since 1912 there are two kinds, public and private, and the curriculum is different in different localities. In regions where tobacco-producing is the main industry, that branch of knowledge is made the most important. At present there are thirteen such schools in Java and Madoera, one in Celebes, and one in Sumatra. They are all taught in the native language, and their presidents are appointed from the graduates of the Higher Agricultural School of Buitenzorg, which is primarily intended for the education of teachers for the native agricultural schools. Formerly, this school belonged to the botanical garden of Buitenzorg. It was first established in 1876, but had been discontinued from 1884 until 1903, when it was reopened with the object of imparting agricultural knowledge to native nobles. It is, however, also open to any Europeans who wish to engage in the agricultural industry of the island. In 1913 the name of the institution was changed to its present title. The science of agriculture and forestry is taught in Dutch, and the

student may graduate in three years and become a teacher of a Lower Agricultural School. Besides these there are a Veterinary School (four years) and a Middle Agricultural School (situated on the plateau of Soekaboemi), for the education of Eurasians. Other industrial schools are mechanists' primary schools, mechanists' middle schools (in Batavia, Soerabaja, Semarang, and other great cities), an industrial art school (at Ngawi, Madioen, Middle Java), and middle industrial schools (one in Batavia, called Queen Wilhelmina's School, and one in Soerabaja, called Queen Emma's School).

VII. Industry and Commerce. Before the 16th century, when the East Indies were not yet explored by Europeans, the whereabouts of these islands were vaguely known by them in connection with such products as gold, spices, pepper, and cloth, which were sent to the European market via the Mediterranean Sea by Hindoo, Chinese, and Arabian traders. They appealed to the commercial and adventurous spirit of Europeans, and their efforts to explore this supposed treasure-land resulted in a most phenomenal development of the world's commerce. In the early part of the 17th century the Dutch East India Company was organized, and it was soon followed by the appointment of a governor-general. For three hundred years after this, the Dutch government tried to exploit the treasures of her territory by the policy of compulsory labour and especially compulsory farming. Though the natives undoubtedly suffered from this high-handed policy, it is also a fact that but for this the country would never have been developed, and the natives would never have learned to work. But the real development of the territory began from 1870, when by the new land law, framed chiefly for the protection of the interests of the natives, a cash tax was substituted for compulsory farming, and the territory was furthermore opened to the investment of foreign capital. From that time on, the building of railways and the expansion of the steamship service went on vigorously. The most important branch of industry in the Dutch East Indies is agriculture, and the efforts of the government are directed chiefly to the exploitation of its agricultural resources. The botanical garden of Java, which is perhaps the greatest institution of the kind in the world, is indeed a worthy monument to the agricultural industry of the islands. Lately the government has been trying to spread agricultural and other technical education throughout the whole territory, and a great future is confidently expected of it.

The following are the chief products of the islands :—

Java (including Madoera, Bali, and Lombok): Rice, sugar, coffee, quinine, tea, tobacco, corn, salt, indigo, tapioca, copra, cocoa, dammar, pepper, cotton, cow and sheep hides, lizard and snake skins, teak, rubber, kerosene oil, calico, bamboo hats, arrack spirit, bees'-wax, swallows' nests, rattan, leather, gold, coal, and diamonds.

Sumatra: Tobacco, coffee, pepper, rubber, vacoua, dammar, gambier, sago, copal, bees'-wax, betel-nut, rattan, gold, silver, tin, iron, coal, and kerosene oil.

Celebes, the Moluccas, and other islands: Cloves, nutmegs, copra, pepper, dammar, sago, coffee, rattan, ebony and sandal woods, iron-woods, pearl and other shells, leather, horns, and birds of paradise.

Agricultural and Forestry Products: As has already been stated, agriculture and forestry are the chief industries of the Dutch East Indies. The former is the most important of all, and it is developed most in Java and a part of Sumatra. In other islands it is still undeveloped. The big farmers of these two islands are mostly Europeans and Chinese, and natives are employed by them. The main products raised by these farmers are sugar, coffee, tea, tobacco, quinine, rubber, and coconuts. Lately, when the enthusiasm for rubber-planting was at its height, considerable capital was invested in this industry and large tracts of land were opened up for new plantations, but unfortunately the enthusiasm has been checked by the sudden fall in the price of rubber. At present the raising of coconuts seems to offer better prospects. Other promising products are cloves, cocoa, nutmegs, pepper, etc. These are the chief agricultural enterprises for foreigners; but for natives, rice, corn, tapioca, and sago, are the main objects of cultivation.

Rice is the chief food of the natives. Java is the centre of its production, but it is raised also in Sumatra, Borneo, Celebes, and other islands. In 1914, the total area of irrigated rice-fields in Java amounted to 6,358,000 acres and that of the dry fields to 723,000 acres. The total product was 104,500,000 piculs.

In raising rice, no artificial fertilizing is required, since the river water that floods the surrounding region deposits good natural fertilizer, which the streams carry down from the volcanic mountains. It is said that in spite of the large amount of rice produced each year, its supply is not quite adequate for the needs of the inhabitants.

Corn is the next important food stuff for the natives and is cultivated quite extensively. The most important corn-producing districts are Pasoeroean, East Besoeki, and Preanger in Java, Madoera, and Celebes. The corn of Celebes is the best in quality, being produced on high and dry ground.

The annual product is considerably in excess of the home demand, so that the larger part is exported.

Tapioca is cultivated almost as extensively as corn. It was originally a product exclusively of South America, but now it is so widely raised in the E., that Java, Sumatra, and Borneo are counted as the chief tapioca-producing districts of the world.

It is a bushy plant and its root goes deep into the soil like the yam, from one to two feet deep. It contains much sugar and can be cultivated easily. A cutting from the stem, from five to six inches long inserted into the ground, will soon take root. At first it was tried only in the western part of Java, but now it is raised in the eastern part also. In 1913 the total acreage in Java and Madoera reached 600,000 acres. Tapioca flour is made out of the root, and factories for the purpose are now found almost everywhere in the island. There are ten of them owned and operated by Europeans. The raw root may be used as cattle food, and sometimes alcohol is extracted from it. When made into flour it is used as the material for various food-articles, especially biscuits, and it is also used to make paper.

Sago-flour is made from a species of palm called sago-palm. Many natives of New Guinea and the Moluccas use it as their daily food.

Other products raised by natives are ground-nuts, indigo, sugar, tobacco, tea, pepper, coconut, cotton, etc.; but all these except coco-

nut are cultivated on a small scale. Coconut is cultivated on a fairly large scale in Borneo and Celebes.

Sugar is the most important product of the Dutch East Indies, especially of Java. In 1913 the total acreage of sugar in Java amounted to 360,000 acres.

Sugar-cane can be successfully cultivated only in regions where there is a sharp distinction between the dry and rainy seasons, and therefore the eastern part of Java is best adapted to the cultivation of sugar. In 1913 the number of sugar-factories in Java was 192, and all of them are situated E. of Cheribon. In 1914 the total amount of the product reached 22,655,274 piculs. At first it was cultivated by the government, but now the industry is entirely in private hands.

Cacao Plantation.

Coffee-growing is the only industry in which the old system of compulsory farming is still kept up by the government. At present the government coffee-industry is run side by side with private undertakings. The former is now controlled by the agricultural department. Some natives are required to bring the product to the government factory at a certain fixed price. Coffee is the export product next most important to sugar. The total acreage of coffee plantations in Java is 165,000 acres, of which fifty-two per cent is planted with the African species, called Coffea robusta, and thirteen per cent with another African species, Coffea liberia, and the rest with Japanese and other varieties. The total number of trees in Java is 6,130,000. Besides these, there are about 54,000 acres on which coffee is grown as a side-industry, the plants being grown between the main trees of the plantation. The number of trees thus raised is 4,150,000. In the Outer Possessions the total acreage of coffee alone is 44,000 acres (610,000 trees), and the acreage in which it is raised as a side-industry is 2,860 acres (180,000 trees).

The government is encouraging the cultivation of C. robusta in the Outer Possessions, and, though in the eastern coast region of Sumatra its development has been very slow, owing to the rage for rubber planting, in other regions, Celebes, the western coast, and the southern part of Sumatra, its cultivation has gradually increased. According to the rough estimation of 1913, the total amount produced was 481,000 kgs. in Java and 94,000 kgs. in Sumatra.

Tea was first introduced at the end of the 17th century. At first the government tried to raise it by introducing plants from India, China, and Japan; but the enterprise did not pay, and from 1870 it has been made a private business. As a private business it has prospered remarkably well, and the quality of the product was found very good.

The centre of the tea industry in Java is the region near Soekaboemi in the province of Preanger. It is raised extensively also in the regions along the railway from Buitenzorg to Bandoeng. It is also raised in the eastern part, but the quality is very much inferior to that of the western part. Sumatra is better adapted than Java for the cultivation of tea, but at present it is cultivated only on a small scale in its eastern coast region. However, the experimental plantations on the plateau of Padang and Deli have proved a remarkable success, and the future of this industry in Sumatra is considered a very promising one.

Tobacco cultivation was once carried on by the government by the system of compulsory farming, but from 1864 it has been made a private business.

The region of Deli in Sumatra is ideally adapted for the cultivation of tobacco, and the present total acreage in the eastern coast regions of the island amounts to 57,168 acres. The quality of the product is next in excellence to that of Havana. It is used as the outer leaves of cigars, and as such its superiority is recognized all over the world. Of the several tobacco factories in the island, the oldest is that of Deli. The total capital invested in these factories is fl. 150,000,000 which is overwhelmingly greater than that of Java, which is only fl. 17,000,000. The total acreage in Java is 57,000 acres, and the regions where tobacco is produced for export are the sultanates of Solo and Djokja and the province of Besoeki. It is also raised in Kediri, Pasoeroean (Malang), and Rembang.

Rubber planting on a large scale began in 1864, although wild rubber plants had been present in the island long before this. The important varieties are Hevea brasiliensis (which is Para rubber, introduced from the tropical forests of South America, and planted in Java first in 1876), Castilloa elastica (also a native of the tropical regions of South America, and introduced to Java first in 1884), and Ficus elastica (which is indigenous to Java and Sumatra). In Java, Sumatra, and Borneo, rubber grows even in regions as high as from 300 to 600 metres above the sea level. In Sumatra, especially, both soil and climate are ideally adapted for the cultivation of rubber. In Java, rubber is raised mostly in Preanger, Pasoeroean, Besoeki, Kediri, and Batavia, and in the Outer Possessions the eastern coasts of Sumatra and Borneo are noted for this industry.

The total acreage of private plantations in Java is 217,500 acres, and the total number of trees is 9,000,000. That of the Outer Possessions is 224,500 acres (9,000,000 trees). Besides these there are 24,000 acres of government plantations. In 1913 the total output was 120,000 kgs. The total amount of foreign capital invested in this industry is said to be fl. 200,000,000 according to some estimations and fl. 130,000,000 according to others. Of this, English capital leads, followed by that of Holland and Belgium.

Dammar, copal, and benzoin are the names of resins produced

in the Dutch East Indies. Dammar is sometimes used as a collective name for all resins, and there are more than twenty kinds of trees from which resins can be extracted. Copal and dammar are used for making varnishes. In most cases, the sap oozes naturally out of the tree, but sometimes it has to be extracted artificially. The natives cut the bark of the trunk and collect the sap that oozes out of it and becomes congealed by the action of air.

The regions most noted for the production of resins are in Sumatra, Borneo, and Celebes. Copal is produced mainly in Celebes, the Moluccas, and New Guinea, dammar in the western part of Sumatra and Borneo, and benzoin in Sumatra.

Spices were once the chief attraction that drew European traders and adventurers to the East Indies; but at present they are by no means the chief source of the wealth of these islands. Even so, their total export value amounts to *fl.* 16,000,000 annually.

The most important kind is pepper, which is produced in the eastern part of Java and the south-eastern and north-western parts of Sumatra (especially in the region of Atjeh). It is produced also in Borneo, Banka, and Billiton. The next important kind is nutmeg, which is produced mainly in Amboina and Banka. The industry was once controlled by the government, but since 1824 its cultivation has been made a private enterprise. In 1864 the policy of the compulsory purchase of the product by the government was also abandoned. From that time on, the industry spread from Java to Sumatra and other islands. Cloves constitute the third important kind; they are produced chiefly in Saparoea and Amboina. From the flowers, oil is extracted and used for manufacturing drugs and soap. The fourth kind is cinnamon, which is the most important for export purposes. Formerly the cinnamon of the Dutch East Indies was more widely known than that of Ceylon (its original home); but since 1865, when the industry was transferred from the government to private hands, it has gradually declined. The most important region for its production is Fort de Kock in the region of Padang in Sumatra.

Seed-oil and vegetable-oil are important products of the Dutch East Indies. There are many kinds, but the most important are those produced from copra, ground-nuts, and the seeds of kapok and sesamum.

The beginning of the exportation of copra to Europe was in 1870. As this export business proved a great success, raising of copra has spread over the whole territory of the Dutch East Indies and is still increasing. Java, especially the province of Preanger, is the most noted region for its production, and the next are Celebes, the western coast, the north-western end (the province of Atjeh), and the eastern provinces of Sumatra, and the western coast of Borneo.

Vegetable-fibre is also an important product of the Dutch East Indies. The most important varieties for export are those produced from kapok, rattan, agave, abacá, and cotton. The cultivation of cotton seems to have been begun a long time ago, but the beginning of its export was in the early part of the 19th century. The cultivation of other fibre plants is of comparatively recent origin. The export of kapok began from about 1860, but the cultivation of agave and abacá began only in the present century.

Kapok is cultivated by natives mainly in Semarang and Kediri in Java, and Palembang in Sumatra.

In Java there is an extensive plantation operated by Europeans. The acreage in Java and Madoera is 68,129 acres and 4,419 acres in the Outer Possessions. The total is 72,548 acres.

Cotton was the old agricultural product of next importance to

rice and coffee, but lately its cultivation has declined. The cultivation of agave has recently been developed by Europeans.

In 1911, the total acreage in Java was 15,309 acres, while the total acreage cultivated by natives in the whole Dutch East Indies was 681 acres. Abacá is cultivated mainly in Sangir and Talaud islands, situated between Celebes and the Philippines. At present it is raised also in the eastern and middle parts of Java and Sumatra, but the amount of production is small.

Rattan grows wild in the mountainous regions of Celebes, Borneo, and Sumatra. Makassar is the centre of its export; it is exported also from Palembang and Djambi in Sumatra, and Pontianak and Bandjermasin in Borneo.

Drugs, dye-stuffs, and tan-bark are also important export articles of the Dutch East Indies. The most important are quinine and coca, sandal-wood, and indigo.

The cultivation of a plant, called cinchona, from which quinine is extracted, began in Java in 1839: but the old variety proved unsatisfactory, and in 1852 an expert was sent to South America to find a new variety. In 1854 new seeds were brought, and seventy-five plants secured from these seeds were the real beginning of this industry in Java. Later some more new seeds were introduced, but the most important kind was that brought by an Englishman, named George Ledger. Cinchona ledgeriana, which is the species most generally planted in Java, was named after him. It is said that this variety contains a greater amount of quinine than any other kinds. The industry was at first undertaken by the government, but from 1877 there have arisen many private enterprises. The production of quinine is the most important enterprise in Java at present, and the quinine of Java is appreciated all over the world. According to the report of 1915, the total number of trees in the government plantation is 12,275,000. Sandal-wood is scientifically called Santalum album and *chandana* or *sandana* in Malay. Makassar is the centre of its export. Indigo had been raised long before the islands came under the control of the Dutch. Once its cultivation was enforced by the system of compulsory farming, but this method was abondoned in 1860. At present it is cultivated only in Solo and Djokja. Besides these, there are mangrove and gambier. Mangrove furnishes an astringent bark useful in tanning and grows wild along the coasts of all the islands. Gambier grows in Sumatra, Riouw Islands, and Borneo.

Timber and fruits are also important products of the Dutch East Indies. Of timber, the teak grown in Java and Madoera is the most important. At the end of 1913 the total area of teak forests in Java was 686,000 hectares.

Besides teak, there are about two thousand kinds of trees from which timber can be obtained; but being fast growers they do not produce good timber and are mostly used as fuel. In the Outer Possessions, about one-half of the area is covered with forests, some of which contain teak-trees, but not in very large numbers. The most important kinds of timber in these forests are ebony and iron-wood, both of which belong to the order of Dipterocarpaceae.

The important forest fruits of the Dutch East Indies are pine-apple, mango, mangosteen, etc. Lately the government has been paying a great deal of attention to the cultivation of fruit trees for export, but at present apples, grapes, and oranges are imported from Japan, China, and Australia.

Cattle and poultry are also counted among the chief products of the islands. But the former comprise only three kinds—horses, cows, and buffaloes. Horses are used chiefly to pull carts and carriages, and buffaloes and oxen for ploughing. Goats are also raised, but pigs are avoided by the natives owing to the strict prohibition of Mohammedanism. Only a few are raised by Chinese for their

own use. Recently the government has been paying attention to the improvement of horses, cows, and sheep by introducing good foreign breeds.

The most important feathered denizen of the Dutch East Indies is the bird of paradise already referred to. This bird is found only in New Guinea and the Moluccas. Formerly there were no restrictions regarding the hunting of it; but in 1910 the residencies of Ternate and Amboina issued ordinances, prohibiting the hunting and exporting of this bird during the season from November to April. Deer are found abundantly in all the islands, and they are considered one of the export products of the Dutch East Indies. There are many kinds of reptiles,—the important ones for export purposes being crocodiles, large lizards, snakes, and tortoises. Tortoise-shell and lizard-skin are not to be despised as export articles. Swallows' nests are found everywhere, but are especially abundant on the S. and E. coasts of Java, the W. coast of Sumatra, Celebes, and the Moluccas.

Mining Industry: The Dutch East Indies have long been famous for their gold, but there is no gold-mine in Java. Sumatra, however, has a good gold-mine called Salida Gold Mine (on the W. coast). Gold-mines are also met with on the N. coast of Celebes, and it is said that local native chieftains used to make an annual tribute from them to the Dutch government.

Coal is produced on a large scale at Laoet Island of Borneo and Oembilin of Sumatra. Both mines are now operated by the government. The former was opened up in 1903 as a private enterprise, but in 1913 it was handed over to the government; the latter was discovered in 1866 and has been producing to its fullest capacity ever since 1895 (see P. 492).

Kerosene oil is produced in Sumatra (the northern regions, Langkat and Perlak, and the southern region, Palembang), Java (Rembang, Soerabaja, and the north-eastern region), Borneo (the whole region of Koetei), and Tarakan Island. The important oil factories are in Pangkalan Brandan (North Sumatra), Peradjen and Bagoes Koening (South Sumatra), Tjepoe, Wonokromo (East Java) and Balik Papan (East Borneo).

The oil industry of the Dutch East Indies is controlled by a big syndicate called Bataafsche Petroleum Maatschappij, organized in 1907 by the combination of the two interests, Nederlandsche Maatschappij (Royal Dutch Petroleum Co.) and Shell Transport and Trading Co. The total capital invested is *fl.* 140,000,000 of which three-fifths belongs to the former and the rest to the latter.

Tin is produced in Banka, Biliton, and Singkep islands. The tin industry of Banka is managed by the government. Diamonds are found in the region of Tjampaka near the Martapoera in the southern part of Borneo.

Manufacturing Industry. The manufacturing industry of the Dutch East Indies is limited to the stage of refining materials. The most important are sugar and oil manufacturing. The next most

important is cement-making (the plant is at Padang in Sumatra, and its daily output is 1,000 barrels). Of native handworks the commonest are mats, baskets, and other simple articles made of bamboo, rattan, vines, and leaves. Of these the most developed is the bamboo hat. In Java, Batik-calico has long been known as the most exquisite art product of the Dutch East Indies. It was first introduced from India, and, throughout its long history of prosperity and depression, it has kept unimpaired the original delicacy of workmanship.

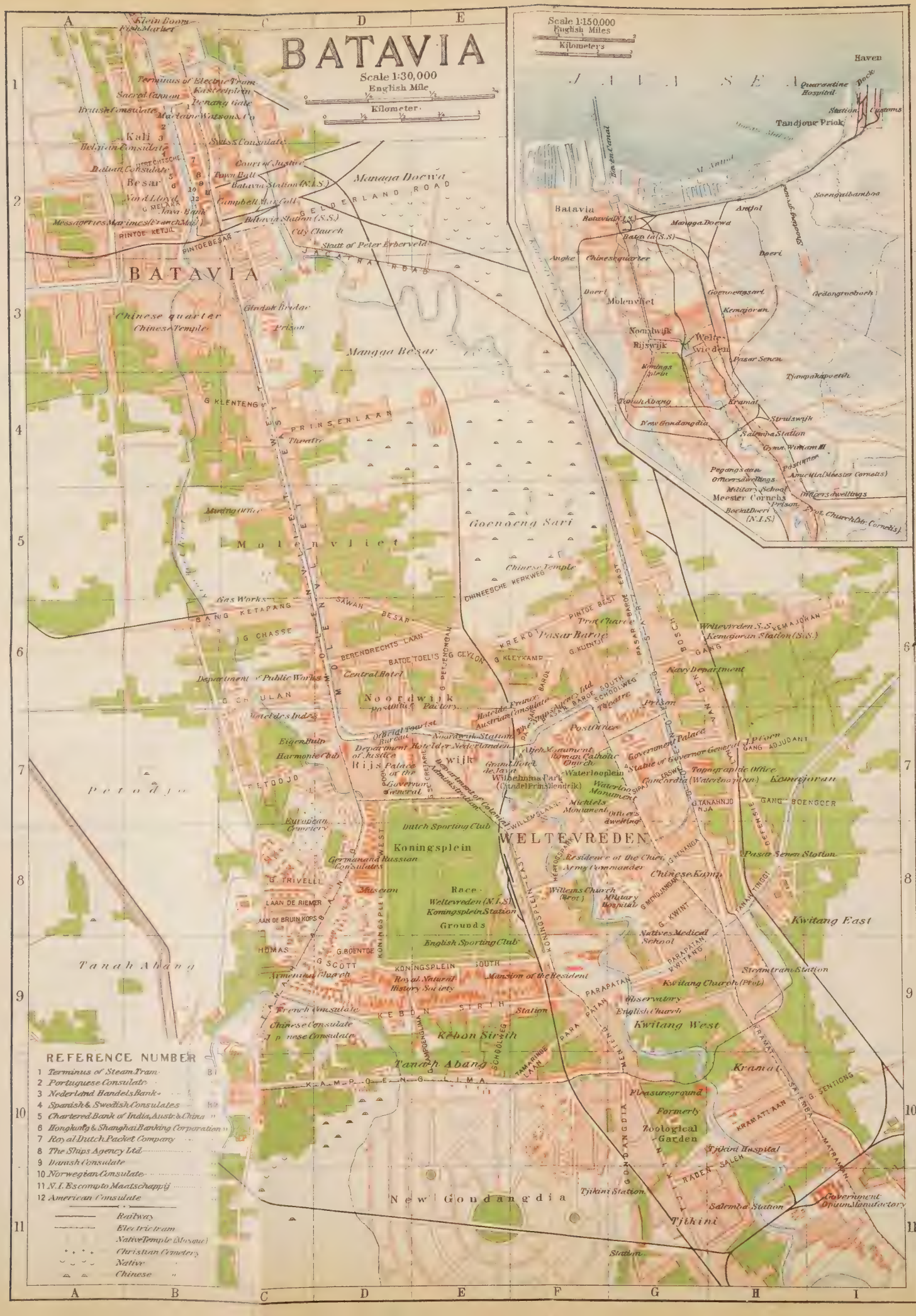
Marine Products. Fishing industry is most active on the eastern coast of Sumatra and the south-eastern coast of Celebes. In Java the northern coast is most noted for this industry. Generally speaking, the fishing industry of the Dutch East Indies is very little developed, and its methods are almost primitive. In spite of this, the artificial propagation of fish is wonderfully well developed, and there are both fresh water and salt water propagating places. The former are found generally on the plateaux of Padang and Tapanoeli in Sumatra Island and Preanger in Java, while the latter are seen on the northern coast of Java, Madoera, and the southern coast of Celebes. The region near Soerabaja is the centre of this industry.

Pearl fishery is also an important industry for the natives of the Smaller Sunda Islands, the Moluccas, from the coast of New Guinea to the Philippines, and the north-eastern coast of Sumatra. The most famous place for this industry is, however, Aroe Island.

Foreign Trade. As stated above, the Dutch East Indies are a great agricultural country, and, as a natural result, manufactured goods are imported from other countries. According to the report of 1914, the total value of foreign trade was *fl.* 1,114,694,000,—exports, *fl.* 684,535,000, and imports, *fl.* 430,159,000. For many years the export value has always exceeded the import value, and Holland has been the chief trading country. Singapore being the centre of the foreign trade of the East Indies, most of the freight of the Dutch East Indies passes through Singapore. This is in spite of the fact that lately there have been established many direct lines of steamship communication with Europe.

The most important export article is sugar (*fl.* 156,609,000), and the next is tobacco (*fl.* 92,147,000). To these, benzene and gasoline, copra, petroleum, rubber, tea, coffee, pepper, leather, rice, rattan, kapok, oil residue, tapioca, flour, tin, paraffin, quinine, and vegetable-fibre follow in order. The most important import article is woven cloth(*fl.* 111,985,000) and the next most important is rice (*fl.* 55,678,000). Besides these, machinery, iron and steel, food stuffs, dried and salted fish, iron utensils, sulphate of ammonia (fertilizer), dresses and other articles of fashion, toilet articles, flour, paper, automobiles, soy-bean, thread, chemicals, railway material, varnish, coal, cement, oil, matches, china-wares, etc. may be counted as the chief articles supplied from foreign countries.

N. B. The figures shown in brackets are those of 1913.


BATAVIA
Scale 1:30,000
English Mile
Kilometer
Scale 1:150,000
English Miles
Kilometers
JAVA SEA
Haven
Tandjoe Priok
Quarantine Hospital
Dock
Station
Customs
Batavia
Ratuwijk (N.S.)
Mangga Doewa
Pasar Ikan (S.S.)
Angke
Chinese quarter
Doeri
Molenvliet
Goenoengsari
Gedongmochoth
Kemajoran
Noordwijk
Rijswijk
Welte-vreden
Pasar Senen
Tjikini Station
Kramat
Struiswijk
New Gondangdia
Salemba Station
Gymn. Willem III
Pegangsaan
Officers' dwellings
Military School
Amurtin (Meester Cornelis)
Meester Cornelis
Prison
Bocht Doeri (N.I.S.)
Prot. Church (Mr. Cornelis)
Terminus of Electric Tram
Kastelplein
Sacred Cannon
Penang Gate
British Consulate
Martine Watsons & Co
Kali
Belgian Consulate
Swiss Consulate
Court of Justice
Town Hall
Besar
Batavia Station (N.I.S.)
Mangga Doewa
Nord Lloyd
Java Bank
Campbell Bank Coll
Messageries Maritimes (French Mail)
Batavia Station (S.S.)
City Church
Statt of Peter Erberveld
PINTOE KETJIL
PINTOE BESAR
BATAVIA
Chinese quarter
Chinese Temple
Glodok Bridge
Prison
Mangga Besar
G KLENTENG
Theatre
Molenvliet
Gas Works
SAWAH BESAR
BANG KETAPANG
G CHASSE
BERENDRECHTS LAAN
BATOE TOELIS
G GEYLON
G KLEYKAMP
Central Hotel
Department of Public Works
G CHULAN
Noordwijk
Post Office
Factory
Hotel de Provence
Austrian Consulate
Eigen Hulp
Harmonie Club
Department of Justice
Rijs Palace of the Governor General
Department of Colonial Administration
Dutch Sporting Club
Koningsplein
WELTEVREDEN
Residence of the Chief Army Commander
Chinese Kamp
Pasar Senen Station
Kwitang East
Natives Medical School
Steamtram Station
Kwitang Church (Prot.)
Observatory
English Church
Kwitang West
Kramat
Pleasureground
Formerly
Zoological Garden
Tjikini Hospital
Tjikini Station
Salemba Station
Government Opium Manufactory
New Gondangdia
Petodjo
Tanah Abang
Kebon Sirih
Koningsplein
Grounds
English Sporting Club
Race
Weltevreden (N.I.S.)
Koningsplein Station
Museum
Willems Church (Prot.)
Military Hospital
Armenian Church
Royal Natural History Society
Mansion of the Resident
Station
French Consulate
Chinese Consulate
Japanese Consulate
Germana and Russian Consulates
European Cemetery
Navy Department
Government Palace
Statue of Governor General
Tapanganie Office
Gunpowder (Waterlooplein)
Komejoran
Waterlooplein
Monument
Michiels Monument
Officers' dwelling
Prison
Post Office
Theatre
Pasar Baroe
Chinese Temple
Chinese Kamp
Kramat
Tanah Abang
Kebon Sirih
New Gondangdia
Tjikini
REFERENCE NUMBER
1 Terminus of Steam Tram
2 Portuguese Consulate
3 Nederland Handels Bank
4 Spanish & Swedish Consulates
5 Chartered Bank of India, Austr. & China
6 Hongkong & Shanghai Banking Corporation
7 Royal Dutch Packet Company
8 The Ships Agency Ltd
9 Danish Consulate
10 Norwegian Consulate
11 N.I. Escompto Maatschappij
12 American Consulate
Railway
Electric tram
Native Temple (Mosque)
Christian Cemetery
Native
Chinese

Route XXVI. Batavia and Environs.

Approach to Batavia. The distance between Singapore and Batavia is 532 m. and the voyage requires about 40 hrs. The sea is generally calm, except in the season when the direction of the monsoon changes; it then often becomes very rough. After leaving Singapore, the steamer sails for some time off Rhio Archipelago, a pretty coast dotted with many small islands. She crosses the equator generally during the night, and on the second day passes through the straits of Banka between Banka and Sumatra islands. Both shores are verdant with palms and the steamer passes very close to each, so closely in fact that a little flag on the signal tower of Banka Island can be plainly seen. But all this suddenly changes. At any instant a shower may descend, and crisp rain drops beat on the deck like silver arrows. Hazy clouds spread over the shores, and the water begins to rustle with rippling waves. Its emerald green colour changes to silvery grey. The whole atmosphere is refreshing, but still more refreshing is its clearing up. As suddenly as it came, just as suddenly does this shower stop, and it is followed by the evening sunshine, the colours of which are brilliantly reflected on land and water. But this sunset glow soon changes into grey evening. The rapidity of change is, indeed, characteristic of the tropical evening. Banka Island, together with Billiton Island lying E. of it, is noted for the production of tin. The miners are Chinese. Its population is about 115,000, most of whom are Malays of Sumatran ancestry. In the morning of the third day the steamer enters Tandjong Priok. As the gateway to the 'Paradise of the East,' it is rather unattractive, but the visitor should be content with the assurance that it is the unvarnished threshold, leading to Nature's great palace of beauty that lies beyond.

Arrival. Tandjong Priok is the port of the city of Batavia. Here on the pier, as soon as the steamer stops alongside it, travellers are met by runners from different hotels, to whom may be entrusted personal luggage (*fee*, 30 cents per parcel, usually inserted in the items of the hotel account). There are, besides, licensed porters, who will carry parcels to the railway station for 10 cents a piece.

The harbour works of Tandjong Priok were completed between 1877 and 1886. The port consists of the Outer and Inner Harbours,—the former (26 ft. deep) is protected by two long breakwaters (each 6,000 ft.), and the latter is 3,553 ft. long and 565 ft. wide, with two quays, of which the E. one has coaling sheds. The cost of construction amounted to £2,200,000. Enlargement of the harbour is now urgently called for.

Custom-House—near the pier. For the customs' examination, see P. 332.

The Railway Station, called Tandjong Priok Station, adjoins the custom-house. On the station premises are the money exchange (where foreign money is changed for the currency of the island) and the post-office (in telephonic communication with hotels in Weltevreden). The distance by rail to Batavia is about 10 km. (*time*, 16–17 min.). The train from Tandjong Priok to Batavia leaves every thirty minutes, except on Sundays and public holidays, when some

trains are not run. There are three railway tracks which, starting from the station in the port, lead to three different quarters in the city. Tourists are therefore advised to choose the train proceeding to the quarters to which they are going. Those going to the hotel district should take trains of the S.S. Line (state line) as far as Kemajoran, or those of the N.I.S. Line as far as Noordwijk or Koningsplein,—these three stations being all in Weltevreden or the upper town. On the other hand, those going to Batavia proper or the lower town should take trains of the N.I.S. Line as far as Batavia N., or those of the S.S. line as far as Batavia Z. It should be remembered that among the trains of the S.S. line there are several which omit Batavia Z., going direct to Kemajoran. The fares—1st and 2nd classes—to different stations of Batavia are as follows: to Batavia S.S. and Batavia N.I.S. (both in the lower town),—50 cents, 20 cents; to Weltevreden S.S. (Kemajoran),—40 cents, 25 cents; to Weltevreden N.I.S. (Noordwijk),—50 cents, 30 cents; to Weltevreden N.I.S. (Koningsplein),—60 cents, 35 cents; luggage, 10 cents per 1/10 cubic metre.

Carriages and Automobiles: *dos-à-dos* (shortened to *sado*), a native carriage in which one has to sit back to back with the driver, 15 cents per ¼ hour. The hotels have European carriages and automobiles, which will be in waiting at the station when one arrives, if previous notification is given by telephone. **Guides.** At all first-class hotels are native guides who speak English,—fee, *fl.* 2½ to 3 per day, besides food and travelling expenses. But for the ordinary tourist there will be scarcely any need of a professional guide, as all resident Netherlanders generally speak English, French, and German; while Malay, which is the prevailing native tongue, is a language of simple construction, and its vocabulary easily acquired. Hotel porters (*mandoer* in Malay), who generally speak English, may be entrusted with the buying of tickets, checking of luggage, etc.

Official Tourist Bureau (Pl. D 7)—at Rijswijk 17 (N. corner of Gang Pool), Weltevreden; open daily—8 a.m. to noon and 5–7 p.m. Here travellers are supplied gratis with all necessary information regarding trips in Java and other parts of the Dutch East Indies (they may have a plan of itinerary made out), and with different pamphlets containing information for tourists. Here guide-books are also for sale.

Hotels: mostly in Weltevreden. Hotel des Indes (Pl. C D 7), 130 rooms besides annexes, *rate* (American plan), *fl.* 7–15—in Molenvliet W.; Hotel der Nederlanden (Pl. E 7), 135 rooms *rate* (American plan), *fl.* 7–12; Grand Hotel de Java (Pl. E 7); Hotel, de France (Pl. E 7),—these three in Rijswijk Str.; Central Hotel (Pl. D 7), obliquely opposite to Hotel des Indes, in Molenvliet E.; Hotel Tramzicht (*rate, fl.* 4 and upwards), in Molenvliet E.

These hotels are mostly of one story, with rooms surrounded by wide verandas, which are paved with stone and provided with chairs, tables, and potted plants. The buildings themselves are surrounded by gardens planted with tamarind, waringin, and other tall, luxuriant trees, so suggestive of a tropical climate. In a word, the first-class hotels of Java are beyond all praise and are equipped with all conveniences for meeting every requirement of tourists in tropical lands.

Restaurants: G. W. Versteegh, in Noordwijk Str. (a handsome spacious room for large parties) and bar at the Waterlooplein;

Stam & Weijins, Rikkers, and Eerste Bataviasche Bierhalle,—these three in Noordwijk Str.; Eerste Nederlandsche Bierbrouwerij, in Goenoeng Sari; Breakfast-hall of Hotel der Nederlanden, in Rijswijk Str.

Pensions (boarding houses): Van Hemert, J.A. Van Hemert. Kramat, J. Van Schauroth, Senin, etc., etc. For travellers intending to make a lengthy stay in Batavia, these pensions will be preferred to more expensive hotels. Some of these pensions do not take boarders for less than one month. The rates are various, and inquiries should be made before engaging a room. Most of these houses have one or two pavilions, which may be rented, at a moderate rate, and where, by hiring a boy (*fl.* 10–15 per month), one may have greater privacy than if one occupied a room in the house.

General Description of the City. Batavia is situated on the N.W. coast of the island of Java, in 6°8′ S. lat. and 106°49′ E. long. The population of the city in 1912 was 162,000, of which 15,000 were Europeans, 30,000 Chinese, 114,000 natives, 1,800 Arabians, and 1,200 others. Among the natives are included Malays, Sundanese, Javanese, Madoerese, and others from various neighbouring islands.

The city of Batavia is divided into the two districts of Batavia and Weltevreden, with the suburb of Meester Cornelis. Batavia (or lower town) is the older town, inhabited by Chinese, natives, and Arabians. Neither in its general appearance nor in the activity of its streets does it compare with the similar district of a great city of the British colonies in the East. It is situated nearer the coast, occupying an extensive original swamp, very thickly populated and very unhealthy. This is, however, the business quarter and here are found banks, steamship companies, insurance companies, and many other offices belonging to Europeans. (The business hours are from 9 a.m. to 4 or 5 p.m.) Weltevreden is the residential quarter, in which live the Dutch, British, and other foreigners, who have their business offices in the lower town. It has broad, metalled streets and airy, open houses, which latter in recent years have been equipped with water-supply and other sanitary installations.

The upper and lower towns are both traversed by the River Tjiliwoeng, connected with which are canals, which run in several directions throughout the city. The river banks are well protected by embankments, having steps at different places leading down to the stream. The greenish-brown stream is a source of great convenience to the natives. In it men, women, and children bathe, wash their clothing (sometimes their eating utensils), and here children play and have a good time.

In the centre of Weltevreden are two parks—the Waterlooplein, containing the Waterloo monument, and Koningsplein. Noordwijk and Rijswijk, the two streets facing each other with the river between, are interesting, especially in the evening, when all the well-to-do residents drive there. Besides these, Molenvliet,

Kramat, Tanah Abang, and Kebon Sirih are among the more important streets in the upper town. The busiest streets in the lower town are Kali Besar, in which are found mostly banks, steamship companies, insurance companies, and other large offices, and Pintoe Besar, Pintoe Ketjil, and Pasar Baroe, which contain flourishing Chinese shops.

Although Batavia is the capital of the Dutch East Indies, commercially it occupies the third place, the other two cities having larger trade being Soerabaja and Semarang. The exports of Batavia comprise coffee, tea, copra, quinine, rice, pepper, pea-nuts, tapioca, and dammar, while the chief items of import are woven fabrics, chiefly made in Holland, England, and Germany.

The most characteristic feature of the city, that distinguishes Batavia from other colonial cities of the East, is that in all its construction, both public and private, permanency seems to be the dominant note. The irresponsible pursuit after the speedy acquisition of wealth in disregard of everything else, which characterizes cities like Colombo and Singapore, is not observable in Batavia. The Dutch do not come to Batavia in order to save money in a short time and then go home; they come with the intention of living there permanently. There are many Dutch who have lived in this city for more than forty years with their families. When their children grow up, they are sent back to Holland for education, and, when their schooling is finished they almost invariably come back and devote the rest of their lives to the development of their native colony.

History. Batavia means literally 'Fair meadows.' The place, which was known as Jacatra or Djajakarta, when taken possession of by the Dutch, was the seat of a prince, who owed allegiance to the Sultan of Bantam. When the first Dutch Governor, Peter Both, was sent out in 1610, he fixed his seat at first in Bantam, a district occupying the W. end of the island of Java. But, finding the Dutch position there indifferent, he looked elsewhere and soon entered into an arrangement with the Prince of Jacatra, a town not far from Bantam and on the N. coast of the island, where he established a 'factory.' When the next governor, J. P. Coen, came out, he surrounded the place with a fortified wall; but he found it too weak to withstand the threatened raids from the English and the natives, and in 1619, when Pilter van den Broeck succeeded him as governor, Coen started for the Moluccas, seeking assistance, and came back after four months' absence with fifteen ships and a large force. He relieved the factory, which in the meantime had been besieged by the natives, and destroyed the town of Jacatra. Governor Coen now laid out on the site of old Jacatra a new town, after the model of a town in Holland, with canals intersecting it in all directions, christened it Batavia, and made it the seat of his government and the stronghold of the Dutch power in Java. The is a memorial of his great services, in the shape of a bronze statue, which stands before the Harmonie Club. The first inhabitants of

the new town were a complex assemblage, but the large majority of them were Chinese. The latter, moreover, kept on increasing, till the Dutch, becoming alarmed at their growing power, greatly oppressed them. The Chinese rose in rebellion, and in the course of its suppression some 10,000 of them were massacred.

At the same time the Dutch, as well as other inhabitants of the town, suffered greatly from malarial fever. The place was swampy, the houses were built close together, and the streets were narrow. The mortality was appalling. According to official records of the time, between 1714 and 1776 there died in the government hospital of Batavia 87,000 men connected with the army and navy. In the space of 22 years and 8 months, between 1730 and 1752, there died in Batavia altogether 1,119,375 people. The mortality from malarial fever was particularly great between 1733 and 1738, when there died annually over 2,000 of the employees of the Dutch East India Company and free native Christians.

The location was not a healthy spot from the beginning, but its insanitary condition was augmented by the eruption of Mt. Salak in 1669 and the earthquake of 1699, which changed considerably the bed of the Tjiliwoeng, blocking the flow of its waters ever since.

It was in view of facts like these, that Marshal Daendels, who was Governor of Java between 1808 and 1811, decided to lay out a new town, somewhat higher up the river, where broad streets and large, open houses, might insure the health of the inhabitants. This is the present town of Weltevreden, which means 'Well content.'

Java under the Dutch rule suffered from the troubles in Europe in connection with the ascendency of Napoleon. In 1810 Holland was incorporated in the French Empire, and in the following year France took possession of the island. But soon after, Lord Minto appeared before Batavia at the head of a British fleet, and the colony passed under the British rule, after the decisive battle of Weltevreden. Sir Stamford Raffles, the founder of the British colony of Singapore, was now appointed Governor and remained in office till 1816, when, in accordance with the Treaty of London signed in August 13, 1814, England restored the colony to Holland. Ever since that time Batavia has remained under the Dutch flag, finally reaching the state of high prosperity it enjoys to-day.

Government Offices: Department of Colonial Administration, Rijswijk (Pl. E 7); Department of Education, Palace on Waterlooplein (Pl. G 7); Department of Finance (except Customs), Palace on Waterlooplein (Pl. G 7); Department of Finance (Customs), Goenoeng Sari; Department of Justice, Rijswijk (Pl. D 7); Department of Government Industries, Laan de Riemer (Tanah Abang; Pl. C 8); Navy Department, Goenoeng Sari (Pl. G 6); War Department (Infantry, Army Commissariat, General Staff, Cavalry), Palace on Waterlooplein (Pl. G 7); War Department (1st Division), Hertogspark (Pl. F. 8); War Department (Artillery), Sipajersweg (near Colonial Club; Pl. G 7); War Department

(Engineer Corps), Schoolweg (Pl. G 6); War Department (Medical Service), Goenoeng Sari.

Foreign Consulates: Austria, Noordwijk, c/o 'Bataviasche Spaarbank' (Pl. E 7); Belgium, Kali Besar W., (Batavia; Pl. B 2); France, Tanah Abang Hill No. 3. (Weltevreden; Pl. C 9); Denmark, Kali Besar E. (Batavia; Pl. B 2); Germany, Koningsplein W., (near the Museum; Pl. D 8); Great Britain, c/o Messrs. Maclaine, Watson & Co., Kali Besar W., (Batavia; Pl. B 1); Italy, Kali Besar W., (Batavia; Pl. B 2); Japan, Tanah Abang, (Pl. C 9); Norway, Kali Besar E., (Batavia; Pl. B 2); Portugal, Kali Besar E. (Batavia; Pl. 2, B 1); Russia, Koningsplein W., (Pl. D 8); Spain, c/o Messrs. Wellenstein, Krause & Co., Utrechtsche Street, near Kali Besar W., (Batavia; Pl. B 2); Switzerland, c/o Messrs. Maintz & Co., Kali Besar W., (Batavia; Pl. B 2); U. S. A., opposite Java Bank, Binnen-Nieuwpoort Str., (Batavia; Pl. 12, B 2).

Banks. Java Bank, Javabank Street, near Kali Besar E., (Batavia; Pl. B 2); Nederlandsche Handels Maatschappij (Dutch Trading Co.), Kali Besar E. (Batavia) and Noordwijk (Weltevreden): N. I. Handelsbank (N. I. Commercial Bank), Kali Besar W. (Batavia) and Noordwijk (Weltevreden); N. I. Escompto Maatschappij, Tandjong Priok (near Station), Binnen-Nieuwpoort Str. (near the Town Hall, Pl. 11, B 2) and Sluisbrug (Weltevreden, in the Royal Dutch Packet Building); Chartered Bank of India, Australia, & China, Kali Besar W., (Batavia; Pl. 5, B 2); Hongkong & Shanghai Banking Corporation, Kali Besar W., (Batavia; Pl. 6, B 2); Mercantile Bank of India, Ltd., Messrs. Maclaine, Watson & Co., Kali Besar W., (Batavia); Koloniale Bank (Colonial Bank), Messrs. Tiedeman & van Kerchem, Kali Besar, (Batavia).

These banks are open daily from 7.30 a.m. to 12.30 p.m. and from 4.30 to 7 p.m., except on Sundays, when they close in the afternoon.

Post, Telegraph, and Telephone: General Post and Telegraph Office (Pl. G 7), at Schoolweg, Weltevreden; Post and Telegraph Office Batavia, at Binnen-Nieuwpoort Str., Batavia; Branch Offices at Rijswijk, Kramat, Meester Cornelis, etc., and also at railway stations. (It should be remembered that at night no message is accepted for dispatch.)

Public Telephone Stands are at the General Post and Telegraph Office, Weltevreden (Schoolweg), Weltevreden Station (Kemajoran), Weltevreden Station (Koningsplein), Batavia Stations (lower town) of the State Railway and the N.I.S. Railway and at Tandjong Priok Station, etc.; *fee*, 25 cents, for a conversation of not more than 3 min.

The office is open from 7 a.m. to 6 p.m. except on Sundays, when it is open from 9 a.m. to 5 p.m. On days that the European mail leaves, it is open until 8 p.m. Telegrams are received until 8 p.m.

Principal Shops in the City.

Apothecary:
Rath Kamp, near Harmonie Club.

Drapers:
Damesbazaar (for ladies), Noordwijk, No. 24.
Durand (for gentlemen), Noordwijk, No. 24.
Eigen Hulp (for ladies), Molenvliet, near Harmonie Club.
A. Herment (for gentlemen), Noordwijk, No. 23.

G. Kerner & Co., Noordwijk, No 31.
M. de Koning, Noordwijk, No. 18.
J. Laarhoven, Noordwijk, No. 13.
Oger Bros., Rijswijk Str., No. 1.
Onderlinge Hulp, Noordwijk, No. 21.
Mr. Pouvrot, Rijswijk Str., No. 10.
Savelkoul (Vaxelaire), Rijswijk Str., No. 8.
Steenbergen Sisters, Noordwjik, No. 32.
Van der Veen, Noordwijk, No. 22.
Buisson (shoes), Rijswijk Str., No. 10.
Roussel (shoes), Rijswijk Str., No. 16.

Barbers:

Paul, Rijswijk Str.
C do Gendt, Rijswijk Str.

Booksellers:

H.M. van Dorp, Binnen Nieuwpoort Str. (lower town).
Javasche Boekhandel & Drukkerij, Rijswijk Str., No. 5.
G. Kolff & Co., Noordwijk Str., No. 8.
Papyros, Lower Town.
F. B. Smits, Noordwijk Str., No. 33.
Boekhandel Visser, Rijswijk Str., No. 4.

Tobacconists:

Louis Dobbelman, Noordwijk Str., No. 5.
Dunlop & Co., Rijswijk Str., No. 8.
Anton Justman, Noordwijk Str., No. 8.
De Tabaksplant, Noordwijk Str., No. 42.

Jewellers:

Van Arcken, Rijswijk Str., No. 11.
Jenny, Rijswijk Str., No. 30.
Olislaeger, Rijswijk Str., No. 20.
G. Steuerwald, Rijswijk Str., No. 5.
H. Steuerwald, Rijswijk Str., corner of Citadelweg.

Opticians:

Marsman & Co., Noordwijk Str., No. 38.
R. Schock, Noordwijk Str., No. 6.

Photographers:

Charlan & van Es., Rijswijk Str.
Photographic Bureau 'Het Centrum,' Noordwijk, No. 7.
Photographic Bureau of the 'Kramat Apotheek' Rijswijk Str., No. 3.
Marsman & Co., Noordwijk Str., No. 38.
Trading Company, Noordwijk Str., No. 35.

Trunks, Bags, etc.:

E. Dunlop & Co., Rijswijk Str., No. 8.
'Eigen Hulp,' Molenvliet Str., near Harmonie Club.
M. de Koning, Noordwijk Str., No. 18.
'Onderlinge Hulp,' Noordwijk Str., No. 22.
John Pryce, Noordwijk Str., No. 17.

***Clubs*:**—Harmonie Club (civilian; Pl. D 7), Rijswijk Str.; Concordia Club (military); Waterlooplein E.; Deutsche Turnverein (German Gymnastic Association), Gang Thibault; English Sporting Club (Pl. F 9), Koningsplein.

Of these 'Harmonie' and 'Concordia' are the two largest. The former has a beautiful room and also a fair library; the latter is intended primarily for military men, but civilians are also admitted, and it has an attractive garden. In both clubs a band performs, on Sunday evenings (6-8 p.m.) in the former, and on Wednesday evenings (from 6 p.m.) and Saturday mornings in the latter. To these performances, visitors are admitted through introductions from consuls or friends.

***Theatres*:**—Theatre 'Komedi' (Pl. G 6; performances generally by European troupes), Schoolweg, at corner where tramways turn S. (Here Dutch, French, or English troupes are often invited to give plays); Thalia (new theatre, Pl. C 4; performances by native actors, actresses, and singers), at corner of Molenvliet and Prinsenlaan; Wajang Malaju, Molenvliet Str.; Komedi Stambul, Molenvliet Str.

In the two last named are given purely native performances, which last till late in the evening.

Means of Communication. The city of Batavia enjoys the facilities of electric and steam tramways, as well as of three lines of railways. The latter consist of the S. S. Line (Staatspoorweg or State Line), the N. I. S. (Nederlandsch Indische Spoorweg) and the Bantam Line. Of these, the S. S. Line embraces the city from its E. border, having stations like Meester Cornelis, Kramat, and Kemajoran, and the Bantam Line similarly embraces the city from its W. border (having such stations as Angke, Doeri, and Tanah Abang) and connects with the S. S. Line at Kramat (Gn. Tenggah). These two together form an irregular ellipse, holding within it the larger part of the city, while the N. I. S. runs from N. to S. between the two, nearly in a straight line, traversing the Koningsplein on its way. On the one hand, all these lines extend from the N. end of the city to Tandjong Priok, supplying necessary facilities of communication between the city and its port. On the other, they extend severally into the interior of the country, viz., the S. S. Line to Bandoeng, via Meester Cornelis, the N. I. S. to Buitenzorg, via Boekit Doeri, and the Bantam Line to Serang, via Tanah Abang, and to Tangerang by means of a branch from Doeri.

***Railway*:—1.** Between the City and Tandjong Priok. Between these places trains are run either way almost hourly on each of the three lines above named. Of the trains on the S. S. Line, some call at Batavia Z. Station, which is a roundabout way, but there are others which omit that station, taking a direct course between Antjol on the Tandjong Priok Line and a station at the N. E. corner of the city. The trains on the N. I. S. Line run through the middle of the city, stopping at several places, while those on the Bantam

Chinese Quarter, Batavia.

Line, either run round the N. end of the city or connect with Weltevreden—Tandjong Priok trains of the S. S. Line at Kramat. Taking all these trains together, there are some 45 trains daily, which run either way between the city and its port.

2. Between the City and Tangerang (distance 23 km., time 1¼ hrs.): the Bantam Line (Batavia Z), 7 trains daily either way.

3. Between Batavia and Buitenzorg (the line extending further S.): the N. I. S. Line (stations in the city, Batavia and Koningsplein), —distance 55 km., time 1¼–2 hrs.—7 trains daily either way. Excepting the two trains leaving the city after 3. p.m., which go only to Buitenzorg, all the trains go beyond the latter city as far as Bandoeng, via Padalarang. There is also a daily express between Buitenzorg and Bandoeng.

4. Between Batavia and Soerabaja: —(*a*) Southern Route. (S. S. Line); express between Batavia (station, Kemajoran) and Soerabaja (distance 869 km.); of this entire trip, the distance between Kemajoran and Padalarang, via Tjikampek, is 154 km. (time, 3 hrs. 42 min.); the trains stop overnight either at Maos or Djokja. Travellers, desirous of going S. after visiting Buitenzorg, should take a morning express from there, making connection with the Batavia —Soerabaja express at Bandoeng. (*b*) Northern Route (S. S. Line); express between Batavia and Soerabaja, via Tjikampek, Cheribon, and Semarang.

5. Between Batavia and Serang (Bantam Line,—station, Batavia Z); five trains daily, via Rangkasbetoeng—distance 114 km., time 4–5 hrs. Travellers starting from Weltevreden should take the train at Tanah Abang.

Steam Tramway. The line of steam trams in the city begins at Kasteelplein (Pl. B 1) in lower town and, passing through Molenvliet, enters the Weltevreden; then, crossing the electric tram line at the N. E. corner of Waterlooplein, it comes to Kramat Station, continuing from there to Meester Cornelis,—entire distance, 12 km.; at Kramat Station, change cars for Meester Cornelis. The cars are run every 7½ minutes. *Tariff* (1st class): Kasteelplein—Kramat, 15 cents; Harmonie Club—Meester Cornelis, 20 cents; Kramat—Meester Cornelis, 15 cents; Kasteelplein—Meester Cornelis, 25 cents; the 2nd class cars are generally monopolized by Chinese, Arabians, and natives; tickets are sold in the cars.

Daily services are maintained during the following hours: Kasteelplein to Kramat, 6 a.m. to 6.40 p.m.; Kramat to Kasteelplein, 5.10 a.m. to 6 p.m.; Kramat to Meester Cornelis, 6.30 a.m. to 6.20 p.m.; Meester Cornelis to Kramat, 6 a.m. to 6.50 p.m.

Electric Trams. The outer line of electric trams begins at Penang Gate (Pl. B 1) in lower town and, passing through Jacatra Road and leading into Weltevreden, proceeds along Kampoeng Lima and Tanah Abang (street) and ends at the Harmonie Club. There are two inner lines — one, starting from the Harmonie Club, passes through Koningsplein N. and E. and reaches Menteng, where it joins the outer line; and the other line, starting from Konings-

plein, passes through Waterlooplein and Vrijmetselaarweg and effects junction with the outer line at Goenoeng Sari; cars run every 10 minutes. *Tariff by Sections*, e. g. Old Batavia — Mangga Doewa (Gelderland Road), Mangga Doewa — Kramat, Kramat — Menteng, Menteng — Tanah Abang, Tanah Abang — the Harmonie Club (Rijswijk): one section, 10 cents; two or three sections, 15 cents; four sections, 20 cents; five sections, 25 cents; tickets sold in the cars. Daily services are maintained as follows:

Batavia to the Harmonie Club, 5.55 a.m. to 5.39 p.m.: the Harmonie Club to Batavia, 5.50 a.m. to 5.23 p.m. The earliest car from Menteng to Batavia starts at 5.10 a.m. and that to the Harmonie Club at 5.19 a.m. The evening cars, leaving Batavia between 5.50 and 6.23, go no further than Menteng, and the same is the case with cars leaving the Harmonie Club in the evening between 5.24 and 6.45. The length of the line between Batavia and the Harmonie Club is 14½ km., the time required in transit being 1 hr.

Motor Cars may be hired at Hotel des Indes, Hotel der Nederlanden, and Hotel Wisse; also at the automobile shop, 'Het Centrum' (Noordwijk), and livery stable, 'Fuchs' (Tanah Abang). ***Hackney Coaches***: 'Ebro,' covered and four-wheeled, with two horses; per hour, *fl.* 1; per ¼ hr., 25 cents; 'Sado,' two-wheeled, with one horse; per hr., 60 cents; per ¼ hr., 15 cents. ***Hotel Carriages***: Ordinary victoria per 2 hrs. (minimum limit), *fl.* 2½; rubber-tyred victoria, *fl.* 3.

Agents of Steamship Companies.

Behn, Meyer & Co., agents for North German Lloyd,—Kali Besar W., Batavia; Hotel des Indes, passage and information office for the same,—Weltevreden.

Borneo Co., agents for Queensland Royal Mail Line and British India S.N. Co.,—Kali Besar, Batavia.

Campbell, Mc Coll & Co., agents for Burns Philp Line,—Kali Besar W., Batavia.

Erdmann & Sielcken, agents for Hamburg-American Packet Co. (H. A. P. A. G.) and Hamburg-American Line (East Asia),—Kali Besar W., Batavia.

Internationale Crediet-en Handels-Vereeniging, 'Rotterdam,' agents for S.N. Co. 'Rotterdam Lloyd,'—Kali Besar E., Batavia, and near Sluisbrug, Weltevreden.

Maclaine, Watson & Co., agents for P. & O. S.N. Co., China Navigation Co., Java-British Line, Dutch S.N. Co., 'Ocean' Currie Navigation Line, and Asiatic S.N. Co., Nan-yo Yusen Kaisha,—Kali Besar W., Batavia.

Mainz & Co., agents for Australian Lloyd and German Australian S.N. Co.,—Kali Besar W., Batavia.

Reynst & Vinju, agents for Messageries Maritimes (French Mail),—Kali Besar E., Batavia.

The Ships Agency, Ltd., agents for 'Nederland' Royal Mail Line, Royal Packet Navigation Co., East Asiatic S. N. Co., Java-China-Japan Line, and Nippon Yusen Kaisha,—near Sluisbrug, Weltevreden, Kali Besar E., Batavia, and Tandjong Priok.

Plans for Drive or walk in morning (6 a. m. — 9 a.m.). In order to obtain a general view of the city of Batavia, the following itinerary plans are recommended:

1. In the Centre of the City:—Starting from Hotel des Indes (or from the Harmonie Club), enter Noordwijk and, passing by Noordwijk Station and the Roman Catholic Church in succession, turn into Willemslaan from the W. side of Waterlooplein; walk round Koningsplein (through Koningsplein N., W., and S.), and then go through Parapatan (in which is the Anglican Church) and Kwit-

ang (in which is the Church of Orthodox Calvinists); now traverse a long street running southward and known successively as Kramat and Salemba, turn to the right and cross Matraman Bridge, and, passing Pegangsaan, proceed along Tjikini till Menteng junction is reached; after this go through Kebon Sirih and Tanah Abang, back to the hotel.

2. In the N. part of the City:—By steam-tram reach Penang Gate and the Sacred Cannon, then walk towards the N. till Klein Boom and Pasar-Ikan (fish market, an interesting sight) are reached; near the latter is a Mohammedan mosque at Locar Batang; now cross the river by a Dutch drawbridge and, via Kali Besar, enter the Chinese quarter, busy with its traffic and swarm of people; at Glodak, take steam-tram for the hotel.

3. In the E. part of the City:—After walking a short way to the N. from the Hotel des Indes, take a sharp turn to the right along Berendrechtslaan and walk on through Krekot and Pintoe Besi as far as Goenoeng Sari; now turning to the N. along the latter and walking on, again turn to the N. W. along the shady Jacatra Road, near the end of which is the City Church (see P. 391); take steam-tram for the hotel.

4. In the S. part of the City:—Take steam-tram from Hotel des Indes to its S. terminal, which is beyond Meester Cornelis; walk for about an hour along the cool and well-shaded road as far as Bidara Tjina, on the Buitenzorg Line, and come back to the tram line by a roundabout way through the little town of Meester Cornelis.

5. In the W. part of the City:—Starting from Hotel des Indes walk along Gang Chaulan for half an hour in the direction of Tangerang, turn S. at the side of a Chinese temple and visit the Chinese cemetery, which is well shaded by large trees; walk again either to Djati or the Tanah Abang market; hire a *dos-à-dos* and come back to the hotel, visiting the European cemetery on the way.

Sights of Interest.

1. **In Weltevreden** (upper town). Weltevreden is the capital of capitals, so to speak, of the Dutch East Indies. This 'Queen of the East' contains many places which are well worth careful inspection. The best time for visiting these places is either during the morning hours or late in the afternoon.

Museum (Malay, *Roemah Gadja*; Pl. D 8). The Museum and Library of the Batavia Society of Arts and Sciences, famous in the scientific world, are situated at the W. side of Koningsplein. The museum contains many exhibits of great interest and is open daily between 8 a.m. and 3 p.m. The buildings are Grecian in style. In front of the main entrance is a brass elephant, a present from the first king of Siam in memory of his visit to Java in 1871. On each side of the elephant is a magnificent cannon, captured from the Sultanate of Bandjermasin, in South Borneo. In the halls surrounding the central court are displayed Javanese antiquities, art works, armour, weapons, implements, ornaments, costumes, masks, basketry, textiles, musical instruments, models of boats and houses, examples

of fine old metal work, and of all the industries of the Javanese. In the Treasure-Chamber are contained gold shields, helmets, thrones, state umbrella boxes, salvers, betel and tobacco sets of gold, jewelled daggers and krisses of finest blades, patterned with curious veinings, besides many other exhibits showing dexterous workmanship in gold —the tributes and gifts from native sultans and princes,—as well as a large coco-de-mir (the fabled twin nut of the Seychelles palm, supposed to grow on a mysterious isle of the sea-gods), mounted on a gold stand. There are also rich ornaments, such as necklaces, ear-rings, head-dresses, seals, plates, and statuettes of gold and silver, dug out of ruined temples and cities of Middle Java; while in some halls are exhibited bronze weapons, bells, tripods, censers, images, and all the appurtenances of Buddhist worship, which are characteristic examples of the Buddhist art of the Dutch East Indies,—all arousing the wonder, curiosity, and admiration of the visitor. In a central hall are displayed bas-reliefs and statues from the ruins of the Buddhist and Brahmanic temples, in which may be noted a marked Greek influence. The Library contains scientific and art publications (received in exchange) of all countries of the world. In the council room are the state chairs of native princes, portraits and souvenirs of explorers and navigators, who visited Java in the 18th century and early in the 19th. It is said that Captain Cook left stores of South Sea curios on his way to and fro.

On every Sunday, Wednesday, and Saturday many natives come to see the Museum. The visitor may avail himself of this opportunity to see the costumes of the native women and children, which are certainly charming.

Noordwijk (literally, N. Town) belongs administratively to Manggabesar, Batavia (lower town), but popularly it is considered to form the N. section of Weltevreden. Its most flourishing part is a street lying on the N. side of the canal, parallel with Rijswijk, which lies on the S. side. The street is planted with tall, luxuriant tamarind trees, behind which are found European shops and firms, among them also somer estaurants, patronised by well-to-do residents, who generally bring their families.

Rijswijk (literally, Rice Town). Though strictly a district lying to the N. of Konigsplein, in popular parlance it is applied to a fashionable street which partly runs parallel to Noordwijk and partly forms the N. continuation of Tanah Abang Road. At the N.W. corner of this district stands the Harmonie Club, a fine large building, patronised by civil officials and well-to-do people. The street is well shaded by beautiful tamarind trees. The houses are generally surrounded by gardens, well planted with trees. On that portion of Rijswijk Street, lying along the canal, runs the steam-tramway. In this street, at its junction with G. Pool Street, is situated the Official Tourist Bureau. To the E. of it stands the Department of Justice, at the back of the official residence of the Governor-General. The street also contains the Hotel der Nederlanden, Department of Colonial Administration, and Grand Hotel de Java.

Koningsplein (literally, King's Square; in Malay *Gambir*). Situated in the centre of the city, this place occupies the large area of about a square kilometre. To walk round it requires an hour's time. To a newcomer it is an unattractive open space of trapezium shape, with only a few trees and small patches of coarse grass. To the Batavians, however, its very barrenness seems to be its attraction, as thus the 'refreshing wind blows unimpeded and the absence of vegetation ensures dryness of air.' Here there gather in the evenings all the wealth and fashion of Weltevreden on horseback or in handsome equipages. Koningsplein is surrounded by rows of large residences and government buildings. In Koningsplein N. are the Dutch Sporting Club and the Governor-General's official residence (where he stays when he pays his monthly visit from Buitenzorg, his ordinary place of residence). In Koningsplein W. are the Museum and Library, and the Consulates of Germany and Russia. In Koningsplein S. is the Royal Natural History Society's building (in which is held the Aldermen's Council), and near it the house where lives the resident of Batavia. Between Koningsplein S. and N. is the Upper Town Office of the Intercommunal Telephone Co., and right behind it the English Sporting Club. Koningsplein E. is the High School for Girls (opened in 1882) and Willemskerk (a Protestant Church). Opposite to these and on the other side of the street is Koningsplein Station of the N. I. S. Railway, while behind the station is the race-course of the Batavia-Buitenzorg Race Club, where races are held twice a year.

Hertogspark (Pl. F 8) is a pretty park lying between Koningsplein E. and the residential quarter for military officers. In the park is the official residence of the Commander-in-Chief. In front of it is a building holding some bureaux of the War Department.

An Important Industry of Tangerang.

Waterlooplein (Pl. F G 8) is a large lawn of 350 square metres, connected with Koningsplein by Willemslaan (street). In the centre of the lawn stands a column surmounted by the 'Lion of Waterloo,' erected in 1825 by the Commissary General Du Bus de Gisignies, to commemorate the Battle of Waterloo. To the E. of the plain is the High Court of Justice and the Palace built by Governor-General Daendels, which, however, has never been used as a palace and at present houses different Government offices. Entering the N. gateway of the palace and ascending the staircase on the right-hand side, one comes to a large hall, in which meets the council of the Dutch East Indies. In this hall is a collection of life-size paintings of all the governors-general. In front of the palace stands a bronze statue of Governor J. P. Coen. The statue was erected on the occasion of the two hundred and fiftieth anniversary of the founding of Batavia, to commemorate his great services as founder of the city. To the S. of the palace is the Concordia Club, which is surrounded by spacious gardens. On the S. side of the plain are officers' dwellings, while on its W. side is the broad Willemslaan, planted with tall shady trees. At the entrance to the street stands a monument to General Michiels, who was killed (1849) during the Bali expeditions. On the N. side of the plain is the Roman Catholic Church, noted on account of its two slender towers, constructed of open ironwork (*à jour* in French). There is, however, nothing, either in the exterior or in the interior view of this church, of the splendour which usually characterizes Roman Catholic churches of Europe. On Waterlooplein football matches are frequently played, and on Sunday afternoon bands give musical selections.

Wilhelmina Park (Pl. E F 7), situated at the end of Willemslaan and on the right-hand side of it, is a very lovely little park, which was named after the present Queen of Holland. The park lies between two arms of the River Tjiliwoeng and is entirely free from the bustle of city life. In the centre is Fort Prins Hendrik, which was removed from the lower town in the time of Daendels. It is now used as a storehouse for arms. Only pedestrians are allowed in the park.

Botanic and Zoological Garden (Pl. G 10), situated to the S. of the Menteng junction of the electric tram, and on the E. side of Tjikini Road, is a cool shady park, containing an interesting collection of tropical vegetation, reminding one of the botanical garden of Singapore. For a long time past, no animals have been kept. The garden is the property of the Botanic and Zoological Garden Club. In a spacious hall which stands in the garden, the members of the Club often get up concerts and balls; there is an admission charge for non-members, (generally, *fl.* 1.50).

Gymnasium William III. is a high-grade school on the W. side of Salemba and to the N. of the Matraman Avenue. It was founded in 1860.

European Cemetery (Pl. C D 7,8) on the W. of Tanah Abang Road and to the S. of Petodjo, is the common cemetery for Europeans. Many of the tombs, dating back to the time of the Dutch East India Company, were originally found elsewhere and subsequently removed here.

2. **The Lower Town** (Old Batavia). As already remarked, this is the old town of Batavia, built after the model of a town in Holland, with numerous canals and narrow streets. Here may be noted many of the interesting features of native life, including that of the Chinese. The following are the chief places of interest:—

Molenvliet (literally, Mill-stream) is a district 3 km. long from N. to S., which serves as a connecting link between the Upper and Lower Towns. The district is divided by the canal into Molenvliet E. and Molenvliet W., while the canal is spanned by numerous bridges. On that side of Molenvliet W., facing the canal, run the steam-trams, the third class cars of which are well patronized by the natives. From curiosity tourists may think of trying these steam-cars (2nd class) but one trial will be enough, as carriages are cheap, cool, and much more comfortable. Molenvliet W. begins from the N. side of G. Chaulan, at the E. end and on the S. side of which is situated the Hotel des Indes. Facing the steam-tramway and enumerated from S. to N. may be mentioned Pension Molenvliet W. (Pension Schauroth), Department of Public Works, the Central Office of the State Railways, Hotel Ort, and the Native Court of Justice ('Landraad'). After these, one comes to rows of low, two-storied shops, kept by natives, Chinese, and Arabians. In early days this part of the town was humorously known as the 'Crystal Palace,' as the shops had glass windows, when that material was scarce in this part of the world. Passing these shops, one comes to the Mining Department (Malay, *Kantor batu*), which contains a large collection of ores and stones, accessible to the public daily till 2 p.m. Along the Molenvliet E. side of the canal, one finds a row of houses of well-to-do people, surrounded by gardens or lawns, and among them also Chinese shops selling foodstuffs, kitchen utensils, or articles of clothing (sarongs, kerchiefs, etc.). Next to these shops (which are all low-roofed), and in striking contrast with them, stands a fine Chinese club-house, the Tiong Hwa Oen Tong Hwee. At the corner of Prinsenlaan (Mangga Besar) is the new theatre, 'Thalia'. At the N. end of Molenvliet E. is the Native Hospital, and behind it the Prison, where convicts serve their terms of hard labour.

Chinese Quarter, which lies to the N. of Molenvliet E., is best entered by turning left near Glodok Bridge, or from Kali Besar in the N. This quarter, containing 20,000 people of the Celestial race, whose business activities form an element of such great importance in Java, is intersected by numerous canals and meandering streets,—a veritable labyrinth to the newcomer. A sight not to be met with in any other part of Java is the thronging, bustling life—hand-carts and horse-carts full-laden with merchandise, and men noisily jostling one against another—in the narrow streets of this quarter.

Kali Besar (literally, Great River) is a European street lying between the N. end of the city and the Chinese Quarter. It contains a number of foreign consulates, shipping agencies, and other large firms. These houses were once occupied by Dutch patricians, but were subsequently transformed into offices and storehouses; traces of a former splendour may be noted here and there in a piece of sculpture, a broad staircase, stuccoes, or marble floors.

Penang Gateway and Sacred Cannon. The Penang Gateway (ancient town-gate; Pl. B 1), which lies in 'Kasteelplein,' is close to the N. terminal of the electric tram, and not far from that of the steam tramway. The Gateway marks the site, where merchants and agents of the Dutch East India Company used formerly to meet in daily council on matters of importance; it is decorated with vases and two sculptured figures, one of a man and the other of a woman. Entering by the gateway, one comes to a broad avenue with old buildings (now used as go-downs) on both sides. To the left, on the lawn, is a cannon 15 ft. in length, much venerated by the natives and Chinese; women, ascribing a fertilizing power to it, bring offerings of rice, flowers, perfumes, and trinkets. The gun, which apparently went through several metamorphoses before attaining its present shape, bears the inscription,—*Ex me ipsa renata sum* ('I was born again out of myself'). The breech of the gun represents a closed fist, reminding one of the *linga*, a mystic symbol in the eyes of the natives. It is believed that when this cannon meets with another of the same kind, now found in Karang Antoe, on the N. coast of Bantam, it will mean the overthrow of the Dutch power in Java.

Fish Market or *Pasar Ikan* (Pl. B 1) is a short distance to the N. W. of the Penang Gateway and well worth spending a few hours at in the morning. Here are generally displayed for sale all sorts of fish brought in by native fishermen, while near the market the Chinese keep many small shops, where all kinds of food and drinks and small household articles may be purchased. Further to the N. E. is a Mohammedan mosque (Loer Batang) and a sacred grave. It should be remembered that before entering the mosque one must remove one's shoes.

Town Hall or *Rumah-bitjara* (Pl. B 2). The Old Town Hall, a Dutch-style building, completed in 1710, is near the station of the Netherlands Indian Railway (N. I. S.) in the lower town. The name reminds one of the old days when the town of Batavia was governed by aldermen. The building is now occupied by the offices of the local government and the police. The entrance staircase, flanked by two lions, leads to the first floor, in which are stored old archives. A side hall, having large Dutch windows with green curtains, contains some old paintings. Under the courtyard of the building are ancient dungeons, now used for storing lumber. To the E. of the 'Town Hall' and adjacent to the lower town station of the N. I. S. are the Courts of Justice.

The City Church (Malay, *Gredja Kotta*; Pl C 2) or Old Portuguese Church, at the junction of Jacatra Road with Gelderland Road, was founded in 1693 and is a simple village church in the Dutch style. Its old-fashioned pulpit, chairs, and brass lustres, its very atmosphere—full of quiet restfulness—are reminiscent of the 17th century. The church is surrounded by a grave-yard closed in with brick walls, just as is the case in the old villages of Holland and England. The pathway through the church-yard leads to the front-door of the church. On the walls of the building are scutcheons, one of which records the founding of the church in the year already mentioned. Near the main entrance is the tomb of Hendric Swaardecroon, who was Governor-General between 1718 and 1725. The tomb is adorned with massive copper ornaments.

Peter Erberveld's Skull (Pl. C 2). Some 200 yards from the City Church, on the left side of Jacatra Road, there is a piece of wall, on which is a stone with an inscription, and above it, set up on a pike, is the skull of Peter Erberveld. This man was an influential Eurasian, who in 1722 conspired to raise a formidable rebellion, in order to expel the Dutch from Java. The plot was discovered before it could be put into execution, and Erberveld and 46 ringleaders were beheaded. His house was pulled down, except a part of the wall, on which his skull has been exhibited ever since as a warning to traitors. The inscription when translated reads as follows:

"In detested memory of the traitor, Peter Erberveld, who was executed, nobody will be allowed to build, construct, lay bricks, or plant on this place, either at this time or in the future. Batavia, April 14, 1722."

Chinese Temple (Pl. F 5) To the N. E. of Noordwijk and at the E. end of Chineesche Kerkweg is a Chinese temple, in the neighbourhood of which are numerous Chinese graves. This temple was originally a residence of the Governor-General, but was sold to the Chinese at the end of the 18th century, owing, as was alleged, to the house being haunted by spectres, which greatly terrified the inmates. It is a Buddhist temple, but many Hindu gods are also worshipped here.

Pasar Baroe (literally, New Market; Pl. F 6) is a Chinese street, in the E. of Noordwijk and running parallel to Chineesche Kerkweg. The street is lined on both sides by rows of Chinese houses, standing close together, in which are sold all sorts of things. Prices are said to be somewhat higher than at other places. A short street, connecting Pasar Baroe and Krekot, serves as a roofed market-place, where fish, clothing, and miscellaneous articles are sold (with natives as regular customers).

Environs of Batavia.

Tandjong Priok—sea-bathing. Persons desirous of enjoying sea-bathing should visit 'Petit Trouville,' situated on the seashore and a quarter of an hour's drive from Tandjong Priok. Take an early train for Tandjong Priok, and there hire a carriage (*fl.* 1.50).

The bathing-place is enclosed, as a safeguard against crocodiles. Admission, *fl.* 1.00. There is a refreshment room attached to the place.

Meester Cornelis is a suburb to the S. of the city, reached by steam-tram or carriage along a broad, shady road, known successively by the names of Kramat, Salemba, and Matraman. On this road are the opium factory and the gymnasium. Originally the place was a small wood on the River Tjiliwoeng, and in the 17th century it was cleared of undergrowth by one Cornelis Seenen. The wood then became a park and was at first called 'Meester Cornelis' Garden.' Cornelis Seenen was for 30 years a reader, teacher, and divine of the Portuguese Christian Church.

Chinese Cemetery (see P. 385).

Tangerang (14½ m. from the city by railway, Batavia-Tangerang Branch); fare, 2nd class (no 1st class), 75 cents; time, 1¼ hrs. —from the Lower Town Station or Doeri Station of the State Railway Line. The town is noted for its export of straw hats, which are made at the well-known factory of Mr. Petitjean. The material used for the hats is flexible and soft, being as good as that of which Panama hats are made; but they are considerably cheaper than the latter. There are also made here various bamboo-works. The hat-factory above mentioned and the market are near the railway station. On one side of the bridge spanning the Mookervaat is a prison, and on the other side of the river, the Tangerang Club.

Batavia—Laboean—Serang.

The journey from Batavia to Rangkasbetoeng takes about three hours by express train and about four hours by ordinary train. From Rangkasbetoeng the train continues on to Laboean (a city at the western extremity of Java) in from two to two and a half hours, and a branch line goes to Merak and Anjerkidoel via Serang.

Leaving Batavia, the train runs for a while through swampy regions, and, as it pursues its course, the red clayey soil changes to a white limy one. In the region of Preanger the verdant vegetation, that has hitherto covered the entire tract of land, is replaced by an extensive barren plain on which, owing to the lack of water, nothing but some weed is growing. From Rangkasbetoeng the scenery changes again. From there on, an avenue of nipa-palms is seen running extensively along the river and rice-fields scattered here and there. About the woods of coconut-palms and banana trees are seen several native villages.

Rangkasbetoeng (80 km. from Batavia) is an important city in the middle of the province of Batavia, as it is situated on the route leading to Anjer and Laboean. Passengers proceeding towards Serang have to change at this station. The city has a population of 3,700 and is the seat of an assistant resident.

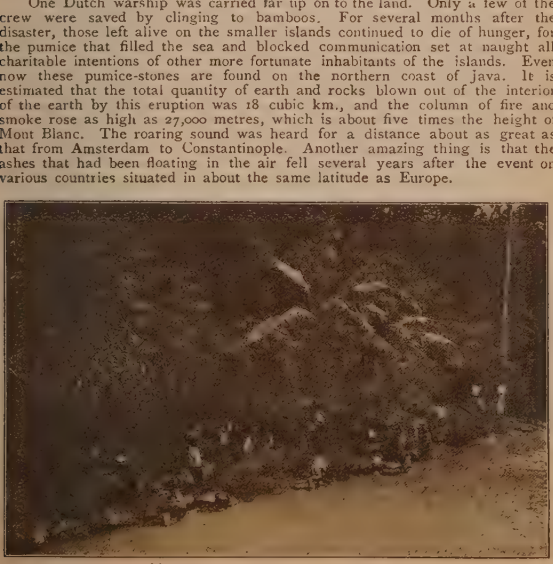
Serang (114 km. from Batavia) is the capital of the province of Batam and has a population of 6,000. It is the seat of a resident and there is also a garrison station. The train reaches here from Rangkasbetoeng and goes on to Tjilegon (the place where an English ship called at the island for the first time in 1596; the ruins of the

fortress and the church are to be seen) and Merak. A branch line starts from Tjilegon and runs to Anjerkidoel, an old port W. of Anjer, with a lighthouse.

Laboean (137 km. from Batavia) is a city, but this region is still primitive and covered largely with forests, some of which have never been trodden by the foot of man, and are haunted by such wild animals as tigers and Javanese rhinoceroses. Its inhabitants are Mohammedans and very idle and stare at visitors almost defiantly. There is no hotel worthy of the name.

Karakatau. This is a volcano rising W. of Laboean. Malay natives call it Rakata. It is noted for its history of the terrible eruption that once destroyed the city of Laboean in a few minutes. For several weeks before the event it had been roaring fearfully, and then, as sea water gushed into the crater filled with molten lava, it burst out all at once, sending forth a terrible noise heard throughout the archipelago, and shaking all the surrounding regions as far as Batavia, where all gas lights were put out, window panes were broken, and ashes continued to fall for several days. Throughout the surrounding regions hungry animals left their usual haunts and attacked men and women. But this was not all, for, as a result of the eruption, half of the mountain fell into the sea, causing thereby a great tidal wave as high as 24 metres, that washed over not only the small islands near by, but also the southern coast of Sumatra and the western coast of Java, where it penetrated inland to a distance of 5,000 metres, killing 36,000 people.

One Dutch warship was carried far up on to the land. Only a few of the crew were saved by clinging to bamboos. For several months after the disaster, those left alive on the smaller islands continued to die of hunger, for the pumice that filled the sea and blocked communication set at naught all charitable intentions of other more fortunate inhabitants of the islands. Even now these pumice-stones are found on the northern coast of Java. It is estimated that the total quantity of earth and rocks blown out of the interior of the earth by this eruption was 18 cubic km., and the column of fire and smoke rose as high as 27,000 metres, which is about five times the height of Mont Blanc. The roaring sound was heard for a distance about as great as that from Amsterdam to Constantinople. Another amazing thing is that the ashes that had been floating in the air fell several years after the event on various countries situated in about the same latitude as Europe.



Natives Washing by the River.

Route XXVII. Batavia to Bandoeng.

There are two routes—(a) from Batavia Z. or Kemajoran to Bandoeng, via Tjikampek and Padalarang, (b) from Batavia N. or Weltevreden to Bandoeng, via Buitenzorg and Padalarang (210 km.; two trains—one from Batavia to Buitenzorg in 1¼ hrs., the other from Buitenzorg to Bandoeng in 5 hrs., both expresses. The former route is shorter, but the latter is more interesting. We will give below a brief description of each.

(a) **Batavia to Bandoeng,** via Tjikampek. The line between Batavia and Krawang was once a private line. Later the government acquired it, and in 1898 the work of extending the line from Krawang to Padalarang (96 km.) was begun. It was completed in 1906 and became a part of one continuous line from Batavia to Bandoeng, the distance between the two points being thereby greatly shortened.

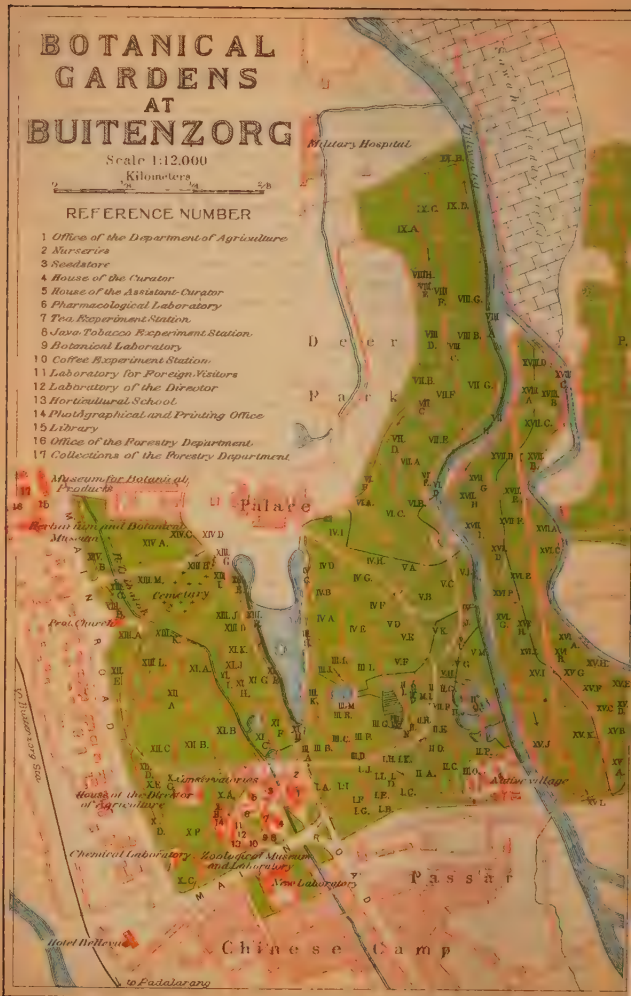
Krawang (63 km. from Batavia) is situated about half-way between Batavia and Bandoeng. It is the seat of the assistant resident, and its vicinity is noted for rice.

Tjikampek (84 km. from Batavia) is a junction. The train coming from Batavia for Bandoeng turns southwards from here and goes to Bandoeng via Poerwakarta, Padalarang, and other stations. Between Poerwakarta and Padalarang, the line passes through hilly regions and there is one tunnel. The train leaving Batavia for Cheribon turns eastwards from this station, and, running along the northern coast of the island, reaches Cheribon, a fine port in Middle Java. From this station to Wadas and Tjilamaja there run tramways, the former 16 km. long and the latter 27 km. long.

(b) **Batavia to Bandoeng,** via Buitenzorg. This route can better be described by dividing it into two parts, one to Buitenzorg, and the other thence to Bandoeng. From Batavia to Buitenzorg (55 km.) one express train and several ordinary trains are run every day. The express train takes 1¼ hrs. and the ordinary train about 2½ hrs.

The train leaving Batavia runs through Meester Cornelis, in a suburb of the city, and the flood district of the Tjiliwoeng, and then comes to Depok (33 km. from Batavia), which is known as a village of native Christians, numbering now about 500. The village is the development of a small community of slaves set free by Chastelein, a member of the Council of the Dutch East Indies. The region still has some primeval forests, which attract the interest of botanists and zoologists.

From Depok the line gradually ascends towards hilly regions, covered with various shrubs and trees, especially with coconut-palms, bananas, and bamboos. As usual in a tropical country, grass is scarce, but there are many rice-fields along the streams running here and there through the forests. An interesting sight along the line is afforded by herds of dark grey buffaloes roaming about along the streams. The natives domesticate them and make them draw ploughs or pull carts.


BOTANICAL GARDENS AT BUITENZORG
Scale 1:12.000
Kilometers
REFERENCE NUMBER
1 Office of the Department of Agriculture
2 Nurseries
3 Seedstore
4 House of the Curator
5 House of the Assistant-Curator
6 Pharmacological Laboratory
7 Tea Experiment Station
8 Java Tobacco Experiment Station
9 Botanical Laboratory
10 Coffee Experiment Station
11 Laboratory for Foreign Visitors
12 Laboratory of the Director
13 Horticultural School
14 Photographical and Printing Office
15 Library
16 Office of the Forestry Department
17 Collections of the Forestry Department
Military Hospital
Deer Park
Palace
Museum for Botanical Products
Herbarium and Botanical Museum
Cemetery
Prot. Church
Conservatories
House of the Director of Agriculture
Chemical Laboratory
Zoological Museum and Laboratory
New Laboratory
Native village
Passar
Chinese Camp
Hotel Bellevue
to Buitenzorg Sta.
to Padalarang

Buitenzorg.

Arrival: A little way past Depok, one will see the experimental garden, belonging to the Botanical Garden, then groups of low, flat, white buildings come into view, and before one is aware of it, the train enters a large, well-ventilated station, which is Buitenzorg. On the arrival of each train, porters, motor cars, and hotel carriages are waiting for guests in front of the station.

Hotels: Hotel Bellevue (charge *fl.* 8), situated near the front entrance of the Botanical Garden, about five minutes' walk from the station. The 'mountain rooms' of this hotel face Mt. Salak across green fields with many coconut groves, between which flows the Tjisadane River. The whole view is magnificent in the extreme. The Hotel du Chemin de Fer is situated near the station. In it is the agency of the Nederlandsch-Indische Escompto Maatschappij. The Hotel de l'Europe is smaller than either of the above two. ***Restaurants:*** Restaurant Rikkers, opposite the Botanical Garden; Restaurant de Wijnberg, adjoining the Hotel du Chemin de Fer.

Post and Telegraph Office: This is within the station building.

Situation and Population: The city (in 6° 37′ S. lat. and 106° 52′ E. long.) is at an elevation of 265 metres above the sea-level and surrounded by the Tjisadane and the Tjiliwoeng. It is a healthy spot and its climate is mild, the average temperature in September, the hottest month, being 77.9° Fahr., and that in February, the coldest month, 76.1°. The soil is fertile and rain is abundant, the rainfall being 4,427 mm. a year. The population is about 34,000, of which 24,000 are Europeans and 4,000 Chinese. The Chinese in Buitenzorg are mostly merchants, and there are not a few who own *tokos*, those labouring as coolies being scarcely met with.

General Description of the City. The city of Buitenzorg ('Care-free') was founded by General G. W. van Imhoff in 1745 and has ever since been the seat of government and residence of the Governor-General. Lately, the Agricultural Department, too, has been established here. This city is conspicuously different from other cities of Java, partly because, being the seat of government, its European quarter is very extensive, but also because it boasts the famous Botanical Garden. Its streets are beautifully planted with tall thick trees, through which gleam the white walls of its buildings. Moreover, various foreign trees planted in the gardens add attractive touches of colour to the clean, neat, and simple city. Especially refreshing is the shower, which occurs from two to five o'clock in the afternoon almost every day, in fact on 220 days out of the 365. The shower is always preceded by thunder and comes suddenly. It stops as suddenly, after washing the atmosphere clear of dust, and, when it stops, people begin to go out for a walk in the Botanical Garden.

Other objects of interest are the Protestant Church and the club-houses in the main street, the army station, the market, the race-course (race meetings are held twice a year, in May and September), the bathing-place, called Soekadingin, opposite the railway station, the lunatic asylum on the Roode Brug (red bridge), the public

cemetery, and a few others. But the Botanical Garden around the residence of the Governor-General is so predominantly interesting, that all these pale into insignificance before it.

The Botanical Garden:—*Situation.* The garden adjoins the residence of the Governor-General and occupies almost the entire southern part of the city. On the western side it is bounded by Groote Postweg, on the E. by the rocky bank of the Tjiliwoeng, and at the southern end is its main entrance facing the market (Pasar), noted for the traffic in tropical fruits. Facing the main road (Groote Postweg) are the Herbarium, the Library of the Department of Agriculture, the Botanical Museum, the Technical and Applied Museum, and the Zoological Museum, which, though small, is noted for its excellent collections of reptiles and insects.

History. The garden was founded on May 18th, 1817, with a German botanist, C. G. E. Reinwardt, as its director. Blume, Teijsmann, Hasskarl, Scheffer, and other botanists succeeded him, and the present director is Koningsberger. The fame of it as the greatest scientific and practical botanical garden in the world is due to the untiring efforts of these scientists. All the departments mentioned above are managed by expert scientists, assisted by about two hundred native employees, who attend to the work of weeding the garden and supplying visters with reference material or samples.

General Description of the Garden. The garden has an area of 58 hectares, and it will take two hours to walk over its main roads only. In some parts, trees grow so thickly that the visitor unconsciously feels that big snakes or wild animals may be lurking among them. Those who want to visit the Herbarium, the Museum, the Library (Kantor batoe), the Botanical, Zoological, Agricultural, Chemical, and Pharmacological Laboratories, the Museum of the Forestry Department, or the Photo-engraving Department, must present themselves at the office between 9 and 12 a.m. to obtain special permission. The garden is, however, open to the public at any time. There is a big laboratory where visiting biologists may do research work.

The plants of the garden are distinctly classified by planting different varieties in different places. Two specimens of each variety are planted together, and one of them is labelled. On the label are written its scientific name and its original habitat. When other varieties are mixed in the specified section, they are marked off with red labels. The label is a small rectangular board attached to a stake. The sides of the board are painted green and its face is white. This is one of the distinguishing features of this garden; but by far the most unique distinction is the classified planting, the like of which can be found in no other botanical garden in the world. The smaller paths of the garden are paved with gravel, in order to prevent the ground from being washed out or rendered muddy by heavy rain.

A walk through the garden. The front entrance of the garden is on the side of the Chinese district. From the gate leads a straight avenue of canariums, designed by the famous gardener, Teysmann. The trees are from 70 to 100 ft. high, and their foliage thickly intertwined extends the length of several blocks. The trunks of the trees are covered by climbers, which belong mostly to the family of the Aroidaceæ. Of these climbers, especially note-

worthy is the one in Section I F at the right side of the gate, which extends to the length of 300 ft., twining serpent-like around the large tree. Some are gigantic orchids (Grammatophyllum speciosum), having as many as 3,000 flowers at a time, and some are an interesting variety of the Monstera deliciosa, with transparent leaves. Between Sections I A and III A, at the spot where the road turns to the right, stands a monument to the wife of Sir Thomas Stamford Raffles.

During the Napoleonic War, a part of the Dutch colony fell into the hands of the English, and from 1811 to 1814 Java was ruled by Stamford Raffles. In 1824, the present boundary line was definitely established, but the safe preservation of the monument to Lady Raffles was guaranteed by the treaty between the two countries. The inscription runs as follows:

"Sacred to the memory of Olivia Marianne, wife of Thomas Stamford Raffles, Lieutenant-Governor of Java and its dependencies, who died at Buitenzorg on the 26th November, 1814.

"Oh thou whom ne'er my constant heart
One moment hath forgot,
Tho' fate severe hath bid us part
Yet still—forget me not."

Turning to the right, one sees in Section I I Saraca declinata, with large yellow flowers, and in the opposite section (III B), Aglaias, with small but fragrant flowers. Farther on, one comes upon the Amherstia nobilis, with pendant racemes of large red flowers and reddish-brown young leaf-shoots, indigenous to British India. In Sections III A, III C, III D, and a part of Section III E are found the order Meliaceae represented.

Turning then to the right and entering a small path between Sections I L and I H, one's attention is attracted by a large tree,

Victoria Regia, Botanical Garden, Buitenzorg.

the American Schizolobium excelsum, standing in the middle of Section I L, and by another which faces it—the American Pithecolobium saman—in Section I D. On the right side, in Section I C, is a specimen of Strychnos nux vomica. It is labelled in red, because its fruits contain strychnine. In Section II A are collected Agaves and Fourcroyas; the latter, when bearing flowers on their stalks which are over ten metres high, are very beautiful. Further on, one observes Yuccas, Dracaenas, and Cordylines, all of which have large cylindrical flowers of pure white and are used in Europe for decorative purposes.

Going straight on, one will come to the village of native gardeners by the Tjiliwoeng. Going, however, by Sections II C and II D, planted with Dracaenas, Cordylines, and Pandanus, one will come out on the main road. In Section II C is a cycad. It is a large tree, but there is only one solitary specimen, all its companions being dead and their roots dried up. In Section II D is Pandanus, with thick air-roots of weird shape. On the main road, in Section I K, is a pair of Ormosia macrodisca, which shed all their leaves once a year, but soon put out beautiful new brown leaves, which turn greener every day. On the opposite side, in Section II H, stands a pair of very tall Eucalyptus alba. Entering, then, a small path between Sections II H and III G, one will notice at the entrance of the fernery (Sections II K and II N) a singularly-devoloped and beautiful specimen of Xanthophyllum excelsum. Its shade is always cool.

Adjoining the fernery is the orchid-garden (Sections II H, II L, and II M), which forms a separate quarter; most of the orchids are attached to the supporting trees, specially planted for the purpose, in a regular order. The tree used is scientifically called Plumiera acutifolia and is a native of Cambodia. It has large elliptical leaves and white flowers. Ditches are dug in the ground, so as to produce a moist condition favourable for the growth of the trees. There are several hundred varieties of orchid, and the most amazing one is the Grammatophyllum speciosum, which is the largest species of orchid known. Its stem is five or six ft. long and has leaves on both sides, but the axis that supports the cluster of small flowers is even longer (sometimes from seven to eight feet).

Around the orchid garden and in its neighbourhood are planted Farinosae, which looked at from a distance appear like thick blankets. The most noteworthy variety is Billbergia thyrsoides, short and with reddish-brown leaves.

Turning to the right and going a little way, one will come to the path that branches out on the right from the main road and goes up a hill, on the other side of which is an extensive hollow. By this path is an inn (in Section II F), from which can be seen the pond directly below it and Mt. Gede in the far distance. The path goes between Sections II F and II E, about which are many cocoa-nut-palms. Some of them are on the top of the hill and others are on its slope, or in the hollow, or by the pond. At the corner of

Section II F is a specimen of Gonocaryum fuscum, a small tree with drooping branches and leaves, rarely seen in the tropics. On the lower slope are fine specimens of Phytelephas poeppigii, the seeds of which yield vegetable ivory.

Descending lower, one comes to the pond, in and about which are growing many interesting aquatic plants. On the turf near by, more exposed to the sunshine, are found several kinds of flowers. Among the most attractive aquatic plants are Victoria regia and Nymphaea amazonum. In a part of the moist ground about the pond is a grove of red leaves, in which are found such viviparous plants as Bruguiera gymnorhiza and Rhizophora, whose fruits germinate on the tree.

Along this grove is a stream, the Tjiliwoeng, which runs right through the garden. Over it are many bridges leading to the other side of the garden. Leaving the pond, and ascending the path between Sections II G and V H, one once more comes out on the main road, which one descends past Sections V H, V K, V I, and V J. The most attractive tree seen in this walk is the tall, slender type of palm, called Niboeng palm (Oncosperma filamentosa). As one descends still further, one will see the red pinang (Cyrtos tachys), salaks (Zalaccas), prickly trees growing in a forest-like group, Royal palms, splendidly tall, straight-growing specimens, (the fruit of which is shaped like a pear, the tree itself being a native of Brazil). There are planted also along the main road to the residence of the Governor-General various varieties of palm (such as Phoenix dactylifera, etc.), vari-coloured coconut-palms (Cocos uncifera), oil-palms (Elais guineensis, indigenous to the coast of Guinea), sago-palms (Metroxylon), and coco-de-mer (Lodoicae seychellarum), the fruit of which is large and grows in pairs. Its leaves are also large and shaped like fans. Its trunk is as hard as iron.

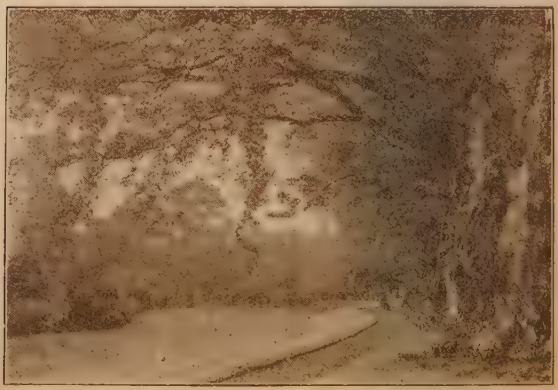
At the left of the palm garden is a section of Gymnosperms, in which Araucarias, Dammars, and tropical pine-trees are the most beautiful.

Going past Section V J and then turning to the right, one crosses the Tjiliwoeng and enters the opposite garden. This garden, surrounded by the two branch streams of the Tjiliwoeng, lies like an island. It was included within the domain of the Botanical Garden in 1890 and has since been used as an experimental garden of shrubs and other herbaceous plants. Its plants are arranged in alphabetical order and not in the order of their scientific classification. In Sections XVI F, XVI G, and XVI H are planted the Malvaceae (with the Bombaceae), which have comparatively recently been transplanted and, therefore, are not fully grown. A little farther on, one comes to Section XV I, containing classified varieties of Musa, such as M. sapientum, M. coccinea, etc. In this vicinity is a collection of ornamental plants, such as Heliconias. Going beyond the nursery at the S. corner of Section XVI G, one comes to Section XV J, which is mainly a shrubbery. Adjoining it is Section XV K, which is also an important herbaceous garden with an experimental

nursery bed. Especially attractive plants in this garden are Aristolochias, with spotted flowers of a queer shape, and Acanthaceae with beautiful flowers and coloured leaves. Sections XV E, XV F, XV H, and XVI A, are especially rich in shrubs having attractive flowers. In Section XV G are Tecomas, Bignonias, and T. jasminoides, all of which, especially the last, are noted for the beauty of their flowers.

One then enters the new canarian avenue, which crosses this island garden in a N. to S. direction. This avenue was recently planted, and in about half a century from now it will resemble the old one. Going farther northward, one will come to Section XVI E, which contains mainly Anonaceae, the flowers and fruits of which have a strong odour and are greedily attacked by armies of ants. On the opposite side, in Section XVI C, is a collection of the Hoyas species of the Asclepiadaceae family, the flowers of which contain a great deal of oil and are called wax-flowers.

The path between Sections XVI C and XVII A leads to the New Economic Garden. In Section XVII F, Connaraceae and Ampelidaceae are especially attractive. In Section XVII E are found the Mimosae species of the Leguminosae family and Camoensia maxima, with large, elegant, white flowers. Turning to the right and entering the path between Section XVII B, containing various kinds of Jasminum, and Section XVII C, in which are various climbing Araliaceae, one comes to Section XVIII B, in which are some varieties of the Combretaceae including Combretum sundaicum, known to possess the virtue of curing the opium-smoking habit. Going farther to the N. corner of Section XVIII D, which is planted with Leguminosae, one will come out at the point where the branch streams of the Tjiliwoeng meet, a spot commanding a fine view. Following the main branch of the Tjiliwoeng upstream, one comes



Waringin by the Pond, Botanical Garden, Buitenzorg.

to Section XVII D, where are various kinds of Leguminosae, then to Section XVII D, in which are found some Salacia with orange-coloured fruit; this section, being on a hill, commands an excellent view of the river. In Sections XVII I and XVI D are the Menispermaceae, called 'chinchao,' from the leaves of a species of which (Cyclea peltata) is produced a certain kind of gelatine-drink, very much appreciated by the natives.

The walk on the island finishes here, and one now recrosses the bridge and comes back to the old garden. The view of the palm garden of Section V L, as one surveys it from the bridge, is certainly admirable, and especially fine are the sago-palms by the stream. This palm is very useful; for not only is its fruit edible, but sugar can be extracted from it; moreover, its leaves make an excellent roofing material, and the leaf-stalks being thornless can be used for various purposes, such as for making mats and building fences. In Section V L there are many useful varieties of palm: the oil-palm (Elaeis guineensis), coconut-palm (Cocos nucifera), double coconut or Coco-de-mer (Lodoicea callipyge), the lontar (Borassus flabellifer), etc.

On the opposite side, in Sections V C, V B, and V A, are the Myrtaceae. Going now northward on the main road, one comes to a small, simple building, which is the bathing-house of the Governor-General. In front of this building stands a specimen of Lontar-palm, and behind it rise a few specimens of Garuga pinnata, which have peculiar candelabra-like branches. In this section are found many varieties of Canarium mangiferas, which produce the delicious 'manggas' (mango). In Sections VI D, VI E, and VII E are two big trees, species of Burseraceae and Anacardiaceae, the lower parts of their trunks forming buttresses and niches.

Going farther along the river, one soon finds oneself in the garden of fig-trees, which occupies not only the larger part of Sections VII G and VII H, but also a part of Sections VII F, VII C, and VIII D. In Section VII G is found Artocarpus incisa growing on branches, and in Section VIII B Artocarpus integrifolia (Jack-fruit), hanging down from trunks and large branches. Towards the northern end of the garden, in Section VIII G, are many trees belonging to the order of Casuarinaceae, which appear very much like the Coniferae. Still nearer the end are many kinds of Cinnamon. In Section IX D are some specimens of the Lauraceæ, which, however, being forest trees, do not thrive very well in this gravelly soil. In Section IX B is a collection of Codiaeum variegatum, generally known as Crotons. Sections IX C, IX A, VIII H, VIII E, and VII F contain Euphorbiaceae. In Section VIII D are attractive small trees belonging to the fig-tree order. The small Section VII C contains Shorea pinanga with willowy branches. Past this section one comes to a small inn on a hill, which commands a fine view of the surroundings.

Proceeding along a narrow path between Sections VII B and VIII D, one approaches the garden of the Governor-General, in

which are herds of deer roaming about. In Section VI A are iron-wood trees and Garcinia mangostana.

Coming out, then, to the wide road between Sections IV I and V C, one finds oneself near Section IV I, which borders on the wing of the Governor-General's residence, and in which are planted a good many specimens of the Sterculiaceae and Tiliaceae. Descending the wide path, one comes to Sections IV H and IV G which contain custard-apples, which belong to the Anonaceae (a famous fruit tree of India), Magnoliaceae, and Myristicas.

Going farther along the path and entering between Sections IV G and IV F, one will find oneself at the spot where Sections IV A, IV B, IV D, IV G, and IV F meet together. In Sections IV B and IV C near a pond are various species of Diospyros and some specimens of Styracaceae. This latter tree contains much milk-sap and out of the sap is made 'gutta percha.' The path between Sections IV B and IV A leads to a fountain with a good open view. In the pond are lotus and Victoria regia. Over it is a bridge, which leads to the vacant ground attached to the residence of the Governor-General, into which, however, the general public are not allowed to enter. By the pond stands a tree, called Kigelia pinnata, which is a native of America and has double leaves and fruit of a long, elliptical shape, hanging at the end of thread-like stems, like sausages. It is, therefore, called the sausage-tree. On the eastern bank of the pond are some species of Nephelium, and, when in bloom, they present a beautiful sight. After walking round this quiet and soothing fountain, one's steps turn to the path between Section III I, containing Sapindaceae, and Section III J, containing Sapindus rarak (from the fruit of which soup can be made), and one will soon come to the place where is grown Filicium decipiens, a native of Ceylon. In its vicinity is a small pond, about which are found American Cecropia and some species of Nymphaea, growing under large and old specimens of Ficus elastica.

Crossing now the path between Sections III J and III K, containing Erythroxylon coca, out of which is manufactured cocaine, one once more ascends to the bank of the pond, and going along it reaches Section XI D, where are a few specimens of Swietenia mahogoni, from which is obtained mahogany-wood.

Then one goes between the pond and the canarian avenue. This second section of the canarian avenue contains, besides the climbers already mentioned, another species of climber belonging to the Aroidaceae. In Section XI H are found a few specimens of Kigelia pinnata and Parmentiera cerifera, with fruit like candlesticks. Sections X I and XI I contain some teak, which produces the best timber in the Indies.

In the arm of the pond extending on this side, there is not only Victoria regia, but some white flowering species of Nelumbo nucifera. On the left side of the canarian avenue is a bamboo forest, in which are the tombs of the Governors of the Dutch East Indies.

In its neighbourhood is an avenue of Royal palms. Passing through this avenue and coming out once more on the canarian avenue, one will see cannonball trees (so called because their fruit resembles cannon balls), growing in Section XIV C, near the Governor-General's stable.

The bamboo forest is a large one, extending along the bank of the Tjibalok, across which is a bridge. Crossing this bridge, one reaches the entrance of the second garden. From Section XIII A southward along the main road are extensive collections of palms. Soon one comes to the rose garden, in which stands the monument to Teysmann, the founder of the 'Hortus Bogoriensis.' Passing by this garden, one finds oneself once more in the palm garden. In

A Thick Clump of Bamboos, Buitenzorg.

Sections XII C, XII D, and X E are specimens of Livistona jenkinsiana, Oreodoxa acuminata, and Scheelea insignis, and among these are climbing rattan, the vines of which extend for a distance of several metres. The visitor is cautioned to keep a good look-out for these spreading and twining spines. Adjoining the residence of the director of Section X D are Pisonias. The view of Sections XII B and XI B from this residence is splendid, for these two sections are the so-called woodland gardens. They are planted with shade trees, under which are found many races of plants that one would imagine to be growing only in primeval forests. There are also found some ant plants (Myrmecodaceae), so called because armies of ants are gathered on the sponge-like protuberances on their trunks.

On each side of the woodland garden is a greenhouse. The smaller one is devoted exclusively to the cultivation of orchids, and the larger one to such foliage plants as Marantas, Dieffenbachias, and Anthuriums. One may enter either one of these by applying to any gardener found on the spot. Farther on is the curator's office, which stands facing the road. Adjoining it is a nursery, which, though not open to the public, is accessible to anyone who cares enough to apply for special permission. Leaving the nursery, one is back on the canarian avenue on one's way home.

The Experimental Stations belonging to the Garden. The Experimental Garden (Cultuurtuis or Kultur Garten or Versuchs Garten) is devoted mainly to the study of the methods of cultivating medicinal and spice plants. It is situated at Tekeumeuh in the N. suburb of the city, 1 km. to the N. of the station, about 30 minutes' walk from Hotel Bellevue.

Hill Garden is situated at the foot of Mt. Gede, S. of the city. It is called Tjibodas Hill Garden. Adjoining this is a forest spreading over 283 hectares. It has never been touched by the axe and still retains all its primeval aspects. Tigers are frequently met with in it. None of the equipments for research work belonging to the garden are open to the inspection of the public. Those who want to see them must apply to the government of Buitenzorg.

Places of Interest in the Vicinity of the City.

Kota Batoe. Reached in 1½ hrs. by carriage or trap, *fares: fl.* 7 for a return trip from Buitenzorg by carriage and *fl.* 4 by trap; (a tip of about half a florin is expected by the driver). After about half an hour's drive from the city, the road branches into two, the left one of which leads to Kota Batoe. As the carriage goes rattling along, the visitor will observe lava lying here and there on the wayside, which shows that the volcanic mountains of this region are still active and do not always stay as quiet as he sees them now. In a little while, he will see the house of the director of Tea Estate Tjiapoes, standing on the top of a small hill. There are two waterfalls in this vicinity, called the Falls of Tjiapoes. The smaller one can be reached in about fifteen minutes, but it is not especially attractive, and the larger one in about twenty minutes. Those,

who intend to visit Kota Batoe only, will go straight along this left road and in about an hour will come to the bathing-place. The admission to it is half a florin. There is a fountain under large waringin trees, and the clear and cool water of this fountain is led into a big hollow, which forms the bathing pool. The place is equipped for various games and sports, and there is also an inn. It is by far the pleasantest resort in the vicinity of Buitenzorg.

Batoe Toelis. The name means 'inscribed stone' and the place is noted for its holy stones. There are two of them: one has footprints on it, and the other has an inscription in old letters. Over the Tjiliwoeng flowing in this vicinity is a quaint bamboo bridge. This place can be reached in two minutes by train from the city; but, as the road, running between Mt. Salak on the right and Mt. Gede on the left, is very beautiful, the visitor had better walk or ride in a carriage or a trap. The fare is *fl.* 2½ for a carriage and *fl.* 1½ for a trap, and a tip of 25 cents is expected by the driver.

Mt. Salak. A trip to the crater of this mountain will take a whole day and, besides, the road is not very good. It is not, therefore, recommended for ladies. Taking the first morning train from Buitenzorg (Buitenzorg—Tjitjoeroeg; *fare*, first class *fl.* 2½), one will arrive at Tjitjoeroeg in about one hour. Then taking a trap from the station (Tjitjoeroeg—Tjidahoe; round trip *fare*: *fl.* 4½) one will reach the village of Tjidahoe in 1¼ hrs. From the village on, one has to ride on horseback, (Tjidahoe—Perbakti; round trip *fare*: *fl.* 2½; tip of *fl.* ½ to the groom), and in about 1½ hrs. one will come to Tea Estate Perbakti, which commands a beautiful view of the valley. From here one has to walk. The path runs up through the tea gardens and by the factories scattered along the foot of the mountain and enters the forest belt. Most of the forests are of bamboos. Though the path is cleared of all obstructions, still the overhanging branches of the bamboos cover it so thickly, that the sun's rays penetrate into it but feebly, and the travellers seem all clad in green garments. The ground is covered with slippery moss. The ascent becomes harder and more precipitous as one proceeds, and in some places one has to climb up with the aid of one's hands. After the bamboo forest belt, one passes through a region thickly overgrown with orchids, ferns, and plantains. Indeed, the path is so overrun by herbaceous plants, that one has to take a traveller's knife called a *golok* and cut one's way through with one's own hands. These plants grow so fast, that in a few days the path will be overgrown by them just the same as before. Meanwhile, one will have been getting near the fumaroles and solfataras, in and about which are many half-burned trees. Among these trees runs a stream called the Tjiapoes, which carries the water of the fumaroles down to the Tjisadane. It is said that sometimes in the afternoon the water of this river suddenly swells to a flood and sweeps away the unwary traveller, who saw no sign of the danger in the morning. The bed of the river is filled with the lava cast up in the great eruption of

1699, which is said to have shaken all the houses of Batavia and to have cast up such a quantity of earth as to change the contour of the surrounding regions. It is now quiet, but this and other 'fire mountains' (*goenoeng api*), as the natives call them, may rage again at any time, as they have done frequently in the past. The island has often been devastated by the eruption of its volcanoes, but the renovating power of this tropical nature is so great, that all such devastation is soon followed by the luxuriant growth of new vegetation.

Telaga Warna and Sindanglaja. Those who are accustomed to hard trips may make one to Sindanglaja, via the beautiful Lake Telaga Warna (by trap, *fl.* 15). The road was opened by Governor Daendels and runs through beautiful scenery. The Pass or Poentjak is, however, a very hard climb. Going along a level road for about an hour, one comes to Godak, from which place the road ascends gradually. Going up for from 1½ to 2 hrs., one will come to Tjisaroea, and farther on in about 1½ hrs. to Toegoe. From there the road makes a great circuit, and in about 1½ hrs. one reaches Poentjak Pass, 1,481 metres above the sea-level. Here, on the border-line between Batavia and Preanger stands a gate, and there is also a small inn, which commands an excellent view of the surroundings. From here one has to proceed accompanied by a guide, and in about ten minutes one comes to Telaga Warna (which means 'colour-changing lake'), so called because its water changes its colour according to different atmospheric conditions. Though small, it is a pretty lake and 100 fathoms deep. The fish living in this lake are considered sacred. The traveller, going to Sindanglaja from Buitenzorg via Poentjak Pass, should not miss this lake. From here to Hotel Sindanglaja the road is a descent and can be driven over in less than two hours.

From Buitenzorg to Soekaboemi (58 km.):—Leaving Buitenzorg, one proceeds with Mt. Salak in view on the right (see P. 405), and the stream of the Tjisadane below, past Batoe Toelis. From there the road winds gently up through the rice-fields which cover almost the entire foot of the mountain. Here and there throughout the fields run rapid streams, the water of which is used for irrigation. Rice grows in this region at any time of the year, and the traveller can see at a glance rice-fields in all stages of growth—some nursery beds, some beautifully green young fields, some already turning yellow, and some heavy with golden crops. (see General Remarks, Industry, P. 368). At a distance of 14 km. from the city is Masing, whence towards the left Mt. Gede can be seen. This region is planted mostly with coffee and tea (see General Remarks, Industry, P. 369). Parakansalak and Sinagar are the centres of this industry. The traveller will be pleasantly impressed by the beautiful contrast of the systematically planted tea gardens and the forests of tall luxuriant trees stretching along the foot of the mountain. Cocoa is also one of the main products of this region, though its output is much smaller than that of tea or coffee. This tree, being less hardy and more brittle than the others, is planted only along the hillsides and in the valleys, where it is protected from strong winds and the severe heat of the sun.

The road runs past the steep pass (546 metres above the sea-level) between Mt. Salak and Mt. Gede into Preanger Residency. As one goes past Tjitjocroeg to Paroengkoeda, one is in the highest spot of southern Java. Turning towards the E. from Tjibadak, one will soon come to Soekaboemi, which is a famous health resort.

Soekaboemi (112 km. from Batavia). *Hotel:* Victoria Hotel

(pavilion system), situated on the Aloon Aloon, and reached in about five minutes' drive from the station. The Sanatorium Selabatoe, situated on an elevation of 700 metres, commands a fine view. ***Post and Telegraph Office,*** within the station buildings.

Soekaboemi (which means 'the world's pleasure') is a city situated on elevated ground, 580 metres above the sea-level. The average temperature throughout the year is 75° Fahr. Its population is 15,000, of whom 600 are Europeans. There are many residences surrounded by palm gardens. The places of interest in its vicinity are as follows:

Ngalindoeng. An excursion to this place can be accomplished for the most part by trap (Soekaboemi—Ngalindoeng; round trip fare: *fl.* 7½). The road from Soekaboemi to Baros past the Tjimandiri is level, but from Baros it is hilly, and the scenery along it is beautiful. It runs round the foot of Mt. Bedil. After about two hours' ride, one comes to the rest-house of Ngalindoeng. From here one has to walk to Telaga Goenoeng or Telaga Warna, a sacred lake in the midst of the Chinchona Garden.

The Falls of the Tjibeureum: This is a beautiful waterfall at the foot of Gede. From Soekaboemi to Selabintana can be travelled in about fifty-five minutes by trap (round trip fare: *fl.* 2½). At Selabintana one has to ride either on horseback or in a sedan-chair, *fl.* 1 for the former and *fl.* ½ for the latter, and a tip of 50 cents to the coolies. The road runs sometimes through tea gardens and sometimes through forests. As one proceeds, admiring the beauty of the surrounding scenery, one will come to an open place in a forest, where there is a small hut. From here across the valley is seen a long silvery stream of the cataract appearing through the wood, but its base is still far away, about thirty minutes' walk along a steep and narrow path. The waterfall is 128 metres high, but the volume of water is comparatively small.

Mt. Salak. By train from Soekaboemi to Tjitjoeroeng (round trip fare, 1st class: *fl.* 2½); from Tjitjoeroeng by the route already described under the section on Buitenzorg (see P. 405).

Wynkoopsbay. From Soekaboemi to Tjibadak by train (round trip fare, 1st class: *fl.* 1½), thence to Wynkoopsbay by trap (*fl.* 15 for one way, and *fl.* 25 for round trip), or by motor-car (*fl.* 60 for round trip), which, however, must be engaged beforehand by notifying the station-master. The road runs through a very beautiful part of the country. At Pelaboehan Rotoe is a rest-house, where the traveller may conveniently stop overnight. Wynkoopsbay is one of the most beautiful spots on the southern coast of Java. The sight of the high waves dashing against the rocks and breaking into spray is sublime. It is especially beautiful towards sunset or by moonlight. Pelaboehan Rotoe is a village on the coast, and near it is a beautiful little cave, called Goeha Tjandi, which is worth visiting. There are also some hot springs and waterfalls in this vicinity.

Tjiandjoer (151 km. from Batavia). On leaving Soekaboemi for

Tjiandjoer, the train passes Lampegan, near which is a great tunnel which divides the plain of Soekaboemi from that of Tjiandjoer. Tjiandjoer is a great village, 579 metres above the sea-level. In spite of this high location it is hot. There is a small hotel, but simple refreshments can be had more conveniently at the station bar. This village is the old capital of Preanger Residency and has a population of 17,000, but it offers no special objects of interest for tourists.

Excepting a small number of Europeans, the inhabitants of this region are almost all Sundanese. They are robust, and, judging from their apparel, their standard of living does not seem to be very low. They are, however, peculiarly humble before Europeans. When they meet Europeans on the road, they immediately stand aside, turning their backs. Their women and children frequently kneel down and dare not look up. This is probably due to their long-ingrained habit of slavery. At any rate, it is a striking contrast to the arrogant attitude of the Malays of Sumatra.

Sindanglaja (side trip). Sindanglaja is a health resort situated 25 m. S. E. of Buitenzorg and 12 m. N. W. of Tjiandjoer. It can be reached from either of the two, but the road from Buitenzorg is long and hilly, taking from seven to eight hours by carriage. The general tourist is, therefore, advised to approach it from Tjiandjoer, from which it can be reached in about two hours by carriage. A good pedestrian can walk the distance in four hours. A carriage cannot always be had; it is sometimes necessary to ask the assistance of the station-master to find one. The best way is to wire beforehand to Hotel Sindanglaja.

Hotel: Sanatorium and Hotel Sindanglaja has a spacious garden and commands a fine view of the surrounding country. Golf, nine-pins, and croquet can be played, and for those who enjoy reading there is a well-equipped library. The place is a good health resort. ***Post-Office:*** There is an auxiliary office about twenty minutes' walk from the hotel.

Sindanglaja was built in 1864 as a health resort for the garrison soldiers of the Dutch East Indies. Situated at an elevation of 1,067 metres, it is a cool, healthy spot. The surrounding scenery is also good; towards the S. W. rises Mt. Gede and beyond it the still higher Mt. Pangerango. In the vicinity are various interesting spots. For all these reasons many Europeans stay here, and many come from Batavia for recreation.

Places of Interest in the Vicinity. ***Telaga Warna*** (see P. 406). The round trip fare by trap to Poentjak, including a tip, is *fl.* 2½. The charge for a guide from Poentjak to the lake is *fl.* 0.25.

Tjipanas (or Tjipannas). *Tji* means 'water' or 'stream' and *pannas* means 'hot.' It is a hot spring and there is a villa of the Governor-General at the place. It is not very far from Sindanglaja, and one can easily walk to it. But for those who wish to ride there are traps (round trip fare, *fl.* ½ including a tip). On the way is a small mountain lake, called Tjisaroea, where one may have boating.

Tjibodas is noted for its hill garden, belonging to the Botanical Garden of Buitenzorg. The garden was laid out in 1866, while Teijsmann was the director. Being at an elevation of 1,372 metres, its

climate is ideal. The garden contains such plants as do not thrive under the climatic conditions of Buitenzorg. It is about 3 m. distant from Sindanglaja. A trip on horseback will cost *fl.* 3, including a tip to the groom. A trip by sedan-chair borne by four coolies will cost about the same. There are several roads leading to it, but every one of them crosses ground covered with lava and several times ascends and descends the hilly place called Ravjinen.

The chief plants seen on the way are Lantana, which resemble Brombeere of South America and include white, yellow, purple, red, and other varieties. Among them are occasionally seen Datara and also Poespa or Verbenaceae, which very much resemble tea. On the back of the hill is seen nothing but potatoes. The beds of Ravjinen are planted mostly with Baumfarne (a species of fern that grows like a tree), which, of all tropical plants, thrives best in moist ground.

About two hours before reaching the hill garden, one will see the white posts that mark the boundary line of the garden.

Those who want to inspect the laboratory and other buildings belonging to the garden must obtain the special permission of the government of Buitenzorg.

As one steps into the enclosure of the garden, one will see a pond. Its limpid water reflects beautifully the green foliage, and on the surface appear lotus flowers as if floating, while around the edge are planted various kinds of flowers, mostly red and purple. The turf of the bank is also beautiful. Going a little further, one comes to an avenue of pines which runs across the entire length of the garden. On going up this avenue, one comes to the laboratory, surrounded by a garden of roses and althaea and backed by an old forest. From its veranda can be obtained a wide view of the hill, its surrounding rice-fields, and the far distant mountains.

Laboratory. It is a flat structure, built on foundation stones which are laid like rows of low columns. A hallway passes through the middle of the building. On the left side of it are four bedrooms, and on the right side are a large laboratory room and a salon containing a small library. At the extreme end of it is the dining-room. The bath-room, the dark-room, and the kitchen form separate buildings at the back of the garden, behind which is a great forest.

The Great Forest is so called, because not only is it a big forest immediately adjoining Mt. Pangerango in the range of Gede and still preserving its primeval character, but also it contains almost all kinds of trees. Those which strike the visitor most by their immense size are *rasamala* (Altingia excelsa), belonging to the pine family, and Podocarpus cupressina. The former usually put out their first branches at a height of about 30 metres from the ground. One of them has a trunk attaining a height of 65 metres, accurate measurement. The latter are nearly as tall, and the space between their trunks is thickly filled by *pisang*, clettaria, canna, and tree-ferns, so thickly, in fact, that one has to cut one's way through with a *golok* (the knife used for such purpose). The ends of their branches, which are closely interwoven, are covered by a parasitic plant (epiphyte), so that the sun's rays hardly penetrate through

them, and therefore taking photographs in the forest is impossible. All the plants of the garden and the important ones of the forest are labelled with their scientific names and numbers, and a reference table, showing their names and numbers and also positions, is hung in the laboratory. (A visitor engaged in special research work is permitted to stay indefinitely in this laboratory.)

The big animals that once lived in the forest have now mostly disappeared. The tigers are all gone, rhinoceroses are recalled only in the names of various places associated with them, and leopards are rarely found. Except that wild boars occasionally disturb people by their sudden and unexpected appearance, and that large grey monkeys, called by the zoologist Cercopithecus cynomolgus, are still rather numerous, no other large animals are met with. Towards evening, flying dogs, called Kolongs, are seen hovering in the sky, and squirrels are also observed jumping about among the branches. Of birds, none but wild pigeons are found, but the number of insects of all species is almost countless. Especially numerous are the golden-brown ants, called Clerome, and a striped flying species, called Amnosia decora. Snakes and other reptiles are not very numerous, but there is a species of leech called Patjets, which cunningly creeps up on the human body through any opening in the clothes, and, before one is aware, it will have sucked one's blood to its heart's content and will then drop off. The wound thus caused is small, but it itches and for some time blood oozes out of it.

Goenoeng Kasoer is also called Breakfast Hill, on account of its once having been the place where a certain governor-general was wont to take his breakfast. There is a villa belonging to the Governor-General here. The place can be reached from Tjipanas in one hour on foot, or one may go on horseback (*fl.* 1) or in a sedan-chair (*fl.* 2), admiring the beauty of the tropical scenery along the road. The villa stands on a hill 1,110 metres high and commands a fine view of the Preanger range.

The Falls of the Tjibeureum (round trip fare on horseback, *fl.* 5; by sedan-chair, *fl.* 4). The road passes through Tjibodas, and for about an hour after this one rides through a hilly region with a thick growth of luxuriant trees. Then one comes to an open hollow place full of rocks. The cataract descends from the bluff opposite this hollow and consists of three streams. The longest and largest is the middle one, which is 137 metres high and is commonly called the Falls yf Tjibeureum (red water). The left one, called Tjibodas (white water), is also large, but the right one, called Tjikoendoel, is much smaller and is partly hidden behind the wood growing about it. In the vicinity of this cataract is a cave in which live many flying foxes having an obnoxious smell.

Mt. Gede (2,953 metres) and Mt. Pangerango (3,019 metres) are twin peaks in the same mountain range. Since to make a trip to the former in one day is rather hard, the visitor is advised to leave Sindanglaja in the afternoon and stay overnight at Kandang Badak (*Badak* means 'rhinoceros' and *Kandang*, 'stall'), situated between Gede and Pangerango, and 2,400 metres above the sea-level. He should get up early, so as not to miss the grand view of the sunrise.

From Sindanglaja to Tjibeureum one may ride on horseback or in a sedan-chair (fare given in the preceding section), but from there

on one has to walk. On the way to Kandang Badak, at an elevation of 200 metres, is a hot spring gushing forth from among rocks. The water is so hot, that one cannot keep one's hand in it very long, and, as the surrounding air is much cooler, it steams out like a thick mist. As one nears Kandang Badak, the road branches into two, the right one leading to Pangerango and the left one to Gede. One must take the left one to reach the rest-house of Kandang Badak. It is a small place, accommodating only three persons, and is built of logs thatched and roofed with mats made of palm leaves and called *atap*. In the centre of the room is a table and at each of its two sides is a couch, which is turned into a bed at night. The key to this resthouse can be obtained by applying to the guard of the Botanical Garden of Tjibodas. The room rent per day is *fl.* 1, and blankets and provisions must be carried from Hotel Sindanglaja.

The following morning, after about two hours' walk, one will reach the crater of Gede. As one approaches it, one will hear a thundering sound about every five minutes. It is caused, of course, by the falling of rocks blown out by the smoke continually surging up from the bottom of the fumarole. The fumarole is divided into two by the lava that has solidified there, and one can walk over it. The S. W. side of the hole forms a semicircular bluff and is constantly emitting gaseous substances.

This volcano remained dormant from 1761 to 1832, but during the following twenty years, from 1832 to 1852, it erupted seven times. The eruption of 1840 was the fiercest of all. The latest one occurred in 1899, when rocks weighing over 300 lb. were hurled to a distance of half a mile.

Mt. Pangerango (see the preceding section) is now extinct. Its highest peak, Mandalawangi, was made by its last eruption. It can be reached in about two hours on foot from Tjibodas. The climate of this mountain is extremely changeable; towards evening the temperature frequently drops to freezing-point.

Patjet (2½m. from Sindanglaja; round trip fare by trap, *fl.* 1) is noted for its Saturday market, where natives assemble from all quarters of the surrounding region, especially their women, dressed in their best clothes and all smiling happily, as if were the best time of the year for them.

Between Tjiandjoer and Bandoeng.

To catch the morning train to Bandoeng, one must be ready to leave Sindanglaja by five o'clock in the morning. But if one is going to take the afternoon train, one may start at about ten o'clock in the morning and take lunch at Tjiandjoer before leaving.

Leaving Tjiandjoer, one passes through a hilly district, with many small hills from 3 to 18 metres high, some round and some elliptical, and farm-houses nestling about them. As one nears the high bridge of the Tjisokan, between Seladjambe and Tjirandjong, one will see a waterfall on the right, and from the bridge one can command a beautiful view of the valley. There are several long bridges in this region, and all iron bridges are painted white down to their foundations, so that they stand out conspicuously from a distance. One will soon come to Padalarang, which is the junction

point of the new line to Weltevreden, via Krawang, and the state line run from Buitenzorg to Soekaboemi. The surrounding plain consists mostly of rice-fields and is hemmed in on all sides by high volcanic mountain ranges. Passing the military barracks of Tjimahi, one finally comes to Bandoeng.

Bandoeng. **Arrival:** At the station, omnibuses and porters are ready to serve all first class passengers. Early in the morning the city is enveloped in dense fog, but it soon clears off and is followed by bright, cool weather.

Hotels: Hotel Homann, on Societetweg near the main road, ten minutes' drive from the station. Hotel Preanger, situated a little farther down from Hotel Homann. Hotel Wilhelmina, Braga Road. Hotel Mignon, near the station. ***Restaurants:*** Kuyl & Versteegh, Braga Road. Vogelpoel, Braga Road.

Post-Office: Situated in the same street as Hotel Homann and reached in two minutes from the latter.

General Description of the City. Bandoeng is the prosperous capital of Preanger Regency. It is the fifth greatest city of Java and situated in the great plain of Bandoeng, 700 metres above the sea-level. Its average temperature throughout the year is 22°C., an ideal one for human existence. Its water is also clear and free from disease germs. Its inhabitants have the whitest skin of any in Java, and its natives are generally neatly attired, especially the women, who are very attractive and fond of display. Its present population is 47,470, of whom 2,200 are Europeans. Owing to its healthy climate and the comparative cheapness of living, many retired army officers of the middle class have come to live here.

The city is sometimes called a 'Garden City.' Its streets are wide and level and contain many villas and gardens. The market and Chinese quarters are very active. The quinine factory of this city is the largest in Java, but it is not open to the general public, and visitors wishing to inspect it must obtain special permission from the government. The chief objects of interest in the city are the Aloon Aloon (the spacious ground in front of the State Residence), the Residence of the Resident-General, Gamelangs Orchestra Hall, belonging to the State Residence, Government House, the House of the Native Chieftain, the Mohammedan mosque, (its roof of red tiles and arcade in Moorish style form a rare sight), Javanese Teachers Institute, the market, park, race-course, etc. A race-meeting is held on the racecourse every July, and the Native Chieftain's horse is entered for some events, causing great excitement among the natives, especially when it wins. In Bandoeng are the head-offices of the State Railway Company (west district).

Places of Interest in the Vicinity. ***Tjiampelas*** is a bathing-place at a distance of about two miles, reached in about twenty minutes by carriage (round trip fare, *fl.* 60).

Dago is a waterfall 13 metres high. It is an excellent picnic ground, reached from Bandoeng in about an hour (round trip fare by trap, *fl.* 4,50; mylord, *fl.* 7.50; automobile, *fl.* 15; tip to the driver, 25 cents.).

Lembang (1,220 metres high) is a health resort situated at the foot of Mt. Tangkoeban Prahoe. There are two hotels, Beau Séjour and Montagne. Reached in one hour from Bandoeng by trap (round trip, *fl.* 5), and in half an hour by automobile (round trip *fl.* 20 and one way *fl.* 15).

Tangkoeban Prahoe is a volcanic mountain, so called because its shape is like the overturned prow of a gigantic boat. It is 2,076 metres high. Take the road from Bandoeng to Lembang and thence ride either on horseback (*fl.* 3 to the fumarole) or in a sedan-chair (*fl.* 5), on the path, which runs up through the plantation of cinchona and the tea garden called Djaja Giri. At a distance of 13½ km. from Lembang, towards the S. of Tangkoeban Prahoe, stands the white, square-pointed monument dedicated to the memory of Franz Junghuhn, a noted German authority on Java, who in 1855, at the request of the Dutch government, began the cultivation of quinine in the island. Going further up for about two hours on the steep path, through a region overgrown with tree-ferns and shrubs, one finally comes to the crater. The crater consists of two fumaroles, called Kawah Ratoe (royal crater) and Kawak Oepas (poisonous crater). The latter is at an elevation of 1,525 metres while the former is about 45 metres higher. The crater was thus divided into two fumaroles by the eruption of 1896. This volcano has frequently erupted in the past, and the last small eruption occurred in 1910. In Kawah Ratoe is a lake of sulphurous water, while Kawah Oepas contains marshy ground. Beside the two there is a much smaller hole, called Kawah Domas.

Tjoeroeg Halimoen is one of the greatest waterfalls of Java. The water of the Tjitaroem, flowing from the high plateau of Bandoeng, passes through a narrow gorge and then falls in a great misty cataract.

Visitors coming from Bandoeng take the train to Tjipeujeum (first class round trip, *fl.* 4) and thence ride on horseback to a small village, called Tjatjaban, 7 m. distant, (round trip fare, *fl.* 2). From there to the fall, about half an hour's walk, a guide is needed (charge, 50 cents).

Mt. Wajang (fumaroles): To make a trip to this mountain in one day is rather hard, and visitors are advised to stop overnight at the rest-house of Pengalengan. For this they must obtain the permission of the Assistant Resident. As the rest-house can accommodate only three persons, visitors should notify the Koppo Controleur beforehand of their desire to use it. As the nights are cold, they should also take some blankets with them. Those who do not intend to stop here overnight may engage a horse by the help of the assistant wedana (native chief) and proceed further on. The path is steep and the horse must be used considerately. In about ¾ hour, one will reach the crater, six miles distant from Pengalengan. The crater is 155 m. wide and 230 m. deep and is covered with milk-white flowers of sulphur. An intermittent hot spring gushes out sometimes to a height of ten feet. All these are interesting sights and will amply compensate one for the trouble of getting here.

Route XXVIII. Bandoeng to Soerabaja.

(A) Bandoeng to Tjibatoe and Garoet.

In a little over one hour's ride from Bandoeng, Tjitjalengka (237 km. from Batavia) is reached, from which the main road leads to Soemedang, a pretty spot in a valley, with a neat little hotel. On the way is a place for pheasant-shooting, called Rantja Ekek. The road also commands a fine distant view of the volcanic mountain range.

The train trip from Tjitjalengka to Garoet is also a pleasant one. Near Nagrek the railway has a very steep gradient and runs up zigzag. Going past it the train comes to the plain of Leles, which is the grange of Preanger and covered, as far as the eye can reach, by rice-fields. Going past this station and crossing the Tjimanoek, the train arrives at Tjibatoe. The main line runs through this place to the hilly country as far as Soerabaja; but passengers bound for Garoet change trains at this station and go up the branch line, running through the fertile plain between Mt. Sedakeling on the left and Mt. Goentoer on the right. In about one hour they will arrive at Garoet.

Garoet (side-trip). ***Hotels:*** Hotel Papandajan (formerly Hotel Rupert), two or three minutes' walk from the station; *tariff*, from *fl.* 6 to 8 per day. Hotel Kurhaus (van Horck), a fine hotel of the pavilion-system opposite Hotel Papandajan; *tariff*, from *fl.* 6 to 8 per day. Hotel Villa Doloce, five minutes' walk from the station;

tariff from *fl.* 5½ to 7½. Hotel Villa Pauline, situated on Tjisoeroepan, 1,220 metres above the sea-level. Villa Hotel Belvedère. *Club:* Societeit Intra Montes, foreigners admitted. *Post-Office:* Adjoining Hotel Papandajan.

General Description of the City. The city of Garoet is situated at an elevation of 762 metres in the plain of Groet, watered by the River Tjimanoek. It is a neat city, traversed by avenues of trees and surrounded at a distance by a beautiful volcanic mountain range, in which Mt. Tjikoeraj and Papandajan in the S. and Mt. Goentoer in the N.W. are the most conspicuous peaks. Its climate is dry and mild, and the place is considered to be the most desirable health resort in Central Java. It is the seat of an assistant resident and has a population of 15,000, of whom 270 are Europeans. Like the city itself, the houses are small, but neatly built, and surrounded mostly by gardens. The main road runs in the western direction across the whole length of the city. Its Aloon Aloon (spacious square) is beautifully planted with trees and turf and looks towards Mt. Tjikoeraj. There stands in it a statue of a meritorious farmer, called Holle. On its N. is the residence of the assistant resident, on its S. that of the native regent, and on its W. a Mohammedan mosque. Going along the main road and turning to the S. on the road leading to Panembong, the visitor crosses the bridge over the Tjimanoek and comes out to its bank from which there opens out an extensive view of rice-fields. Towards the S. is seen the majestic figure of Mt. Tjikoeraj. Going westward from the station through the avenue of trees called Spanthodeen, one will see in the distance the no less majestic Mt. Goentoer. In the city itself there are no specially interesting objects. The main things that attract the attention of visitors are its market, whither the natural products of the region are brought, mostly in baskets by natives, to be sold to the eager buyers ready on the spot, and its government pawn-shops, in which valuable and rare articles are frequently to be found. It is said that the present Russian Emperor, when Crown Prince, visited this city and, impressed by its ideal climate and beautiful surroundings, exclaimed, 'See Garoet and then die!'

Southern Preanger, being a thinly-populated, undeveloped country, is a desirable region for hunting leopards, wild boars, rhinoceroses, wild oxen, stags, tigers, and other wild animals. Soekaboemi, Tjiandjoer, Bandoeng, and Garoet are the starting-points for such hunting trips.

Places of Interest in the Vicinity. ***Tjipanas*** is noted for its hot springs. The road leads to Trogong (2½ m. from Garoet), which is a fair-sized village, with a Mohammedan mosque and the residence of the native chieftain. Going a little way past this village, one comes to some pretty fish-ponds, and, going further on, one reaches a public rest-house and the hot springs. There are five of them, each of which is of a different temperature—from 104° to 108° Fahr. The charge for admission to any one of these springs is 25 cents. They are in rocky tubs, covered with huts built of bamboo. The water has healing properties. The round trip fare

between Garoet and Tipanas is *fl.* 1.50 by trap and *fl.* 5 by carrage. There is a path leading from here to Mt. Goentoer, but it is steep, and it is no easy task to climb to the top of it. The visitor is, however, advised to go as far as the lower edge of the lava flow. A little bamboo hut has been erected there, and from it one can command a fine view of the plain of Garoet.

LAKE OF BAGENDIT, GAROET.

Lake of Bagendit. *Bagendit* is the name of the native's short sword, and the lake is so called because in shape it resembles this sword. It is situated at an elevation of 596 metres above the sea-level. The round trip fare is *fl.* 3.25 by trap and *fl.* 8.50 by carriage.

Leaving Garoet and crossing the Tjimanoek, the road turns to the right, and after about twenty minutes it joins the main road coming from Trogong. Going along this road past the natives' school and houses and then turning to the left, one will soon come to the lake. In it is an island on which stands a little summer-house. Lotus flowers are blooming on the water and native fishing canoes are seen floating here and there. The visitor may float about on it on a bamboo raft and then, landing on its W. shore, may climb the bare hill on that side. On the hill is a summer-house from which one may admire the surrounding scenery. As one goes to this lake, lovely native children gather about one and sing a queer native tune, while some present one with water lilies and other lovely flowers.

Lake of Leles is more properly called Sitoe Tjangkoewang. It is situated at an elevation of 710 metres. In it are several islands and on one of them, under the shade of a waringin tree, is the tomb of Sultan Tanoek Râjâ of the kingdom of Mataram, built in the 15th

century by the Mohammedans of the eastern part of Java. It is a fine spot for a half-day excursion. Leaving Garoet by trap (*fl.* 5) or by carriage (*fl.* 12.50), and going past Trogong northward along the foot of Mt. Goentoer, after about an hour one will have to ascend a steep, winding path, looking down on the plain of Leles. Then descending the hill and going past the village of Leles and then turning to the right, one will finally come upon the beautiful lake.

The above three lakes may be visited in one trip, either by going from Garoet via Tjipanas to Leles and taking in Bagendit on the way back, or by going from Garoet to Bagendit and thence to Tjipanas, and seeing Leles from a distance on the return journey.

Kawah Kamodjan is a volcano in the Goentoer range. Leaving Garoet early in the morning by trap (from Garoet to Tjiparai and back, *fl.* 4), one comes in 2¼ hrs. to the small village of Tjiparai. From there one rides either on horseback (return trip to the crater, *fl.* 3) or in a sedan-chair (*fl.* 4), and, taking breakfast at the rest-house of Kamodjan (1,372 metres) on the way, and then climbing up the steep path for 1¼ hrs., one comes finally to the crater. The sight of the sulphurous smoke surging up from the bottom of the holes is sublime. This trip being the easiest of the kind may be recommended to ladies.

Kawah Manoek (which means the "birds' crater") is so called from the fact that birds die here, suffocated by the sulphurous gas. Leaving Garoet and going past Trogong, one comes to a model Sundanese village, called Pasir Kiamis, (fare by trap from Garoet to Pasir Kiamis, *fl* 4). Going from here either on horseback (fare from Pasir Kiamis to the crater, *fl.* 2.50 and a tip of 50 cents), or in a sedan-chair (*fl.* 2.50 and a tip to the coolies of 10 cents each) for about twenty minutes, past the quinine gardens of the Daradjat Company and primeval forests covered with moss, one will begin to notice the smell of sulphur. Continuing for about ten minutes, one will come to a small bamboo hut, beyond which rise columns of sulphurous smoke. There are several fumaroles filled with sulphide of lead and sulphuretted hydrogen. The biggest one has a diameter of 30 ft. and vomits particularly dense smoke. To go round the crater will take about 40 minutes. Visitors must carefully follow the steps of the guide.

Papandajan ('smith'). This crater is a most popular one to climb, though the ascent on foot is difficult. When making the ascent on horseback, ladies are advised to ride astride. Leaving Garoet by trap early in the morning, one goes as far as Villa Pauline, 11 m. S. of Garoet and at an elevation of 274 metres. There one leaves the trap and rides either on horseback (fare to the crater, *fl.* 3.50 and tip 30 cents) or in a sedan-chair (*fl.* 4 and a tip to the coolies of 10 cents each). The path runs through rice-fields and through forests thickly grown with orchids, tree-ferns, and wild plantains, and along steep gorges. After a while one comes to a point where it branches into two. One should take the right branch,

which leads to a point near the crater. The horse should be tied here, and the rider walk a little further to a small hut, where he may spread out his lunch. The surrounding ground is turned yellow by sulphur, and here and there white smoke surges up intermittently, while many springs and fumaroles are welling forth, and even the water of a little stream running among the rocks is hot. All this is sublime enough, but, if one looks far into the distance, one will see the plain of Garoet spread out in one extensive panoramic view, offering a striking contrast to the thrilling sight near by.

Drawing its source from near the crater, the hot turbid water of the Tji Paroegpoeg runs down among the lava into the forests.

Those who are fond of climbing mountains may essay the feat of scaling the crater. Its trees have all been checked in their growth by sulphur fumes, but on the summit stands a signal post, from which the view towards the N., and of the mountain range extending towards the S., is particularly fine.

The great eruption of this mountain on August 12th, 1772, destroyed forty villages and killed about three thousand people.

Telaga Bodas ('white lake') is a fine spot for a half-day excursion. Leaving Garoet by trap, one goes to Wanaradja or Padaharan (distance 7 m.; round trip fare, *fl.* 2.50). From there one rides either on horseback (to Telaga Bodas and back, *fl.* 4, and a tip of 60 cents to the groom and 75 cents to the guide), or in a sedan-chair (*fl.* 5.50, and a tip to the coolies of 20 cents each), and goes through coffee groves and wild forests to a place where many shrubs and red-flowered plants are growing, and where the air is sensibly affected by the volcano near by. Turning here, one will soon be confronted by the lake, the water of which, reflecting the sulphur and alum accumulated on the bottom, gleams white, presenting a remarkable contrast with the thick green foliage on the S. side of the bank. The lake is at an elevation of 1,710 metres and measures 45 metres in length and 15 metres in depth. Its shape is nearly circular, and, except the part along which a path runs, its bank is surrounded by rocky bluffs thickly grown with trees and shrubs. At a distance white smoke is seen rising constantly, indicating that there is a fumarole near by. There are also in its vicinity several waterfalls and boiling springs. One may either walk around the lake or cross it in a boat. The walk is, however, full of steep places and is not recommended for a tender-footed tourist. The walk about the fumarole, waterfalls, and springs will take about one hour. This mountain has remained quiet since the eruption of 1822.

As one descends north-westward about 200 metres, one will come to the valley called Padjagalan, which means 'slaughter,' so called probably, because the carbonic acid gas rising up from the bottom of this valley kills all animals that come to cross it.

Mt. Tjikoeraj is the highest extinct volcano (2,821 metres) in the vicinity of Garoet and is noted for the exceptional view of Mt. Papandajan and the S. sea from its summit. A trip to this mountain

will take three days and requires special preparation. That is, coolies must be sent beforehand to open up several blocked places on the path; this will cost fl. 12. On the first day of the trip, the traveller stops overnight at Tjikadjang, 1,240 metres above the sea-level, and 5 km. S. of Tjisoeroepan. Leaving this place about two o'clock in the morning on horseback, one comes in about an hour and a half to the boundary line of the tea gardens, from where one has to walk through forests for about six hours. Then one comes to the summit of the mountain. There one has to pass the night under a tent that must be brought for the purpose.

(B) Tjibatoe to Djokjakarta.

The distance from Garoet to Tjibatoe is 20 km. (2/3 hr. by train). There are eight trains daily between the two, and each of them is connected with the train of the main line, so that one can run directly to Maos, catching a train from Bandoeng.

The train leaving Tjibatoe soon enters the fertile plain of Tasikmalaja, which is dotted with small hills formed by the eruption of Mt. Galoenggoeng in 1822. They are mostly small and low, but a few are as much as 80 to 100 metres high. The next eruption, that occurred in 1894, devastated many rice-fields with lava and sand; but on the whole the plain has been rendered more fertile and productive by this eruption.

Mt. Galoenggoeng: To visit the crater of Galoenggoeng, Tasikmalaja is the best starting-point. The crater is a very large one, having a diameter of 1½ miles and is surrounded, except at the E. S. E. end, by high bluffs from 457 to 915 metres high. The crater floor was once rough and hilly, but the eruption of 1894 covered it with sand and converted it into a plain. At present it is very much like the Sand Sea of Mt. Bromo, though on a smaller scale. The slope adjoining the crater had been covered with thick forests, before the eruption which burned them and left only the bare ground. Towards the north-western end of the floor is another crater-pit, about 180 metres deep. At an altitude of nearly 1,829 metres there is a small lake, called Siloe Growong, from which the water of the Tji Bandjaran falls in a cataract, 457 metres high, perhaps the highest cataract in Java. A little distance to the N. of the crater stands a conical hill, called Beusi Tjanar, which is the highest peak of Galoenggoeng (2,241 metres).

E. of Tasikmalaja is a large village, called Singaparna, noted for the production of baskets. The distance between Tasikmalaja and Singaparna is only 18 km., covered by tram in 1¼ hrs.

The distance from Tasikmalaja to Maos is 120 km. and on the way are several small stations—Tjiamis, Bandjar, Tjipari, and others—all noted for the production of pine-apples. The train leaving Tasikmalaja runs past Manondjaja, then, winding round in a northerly direction, crosses the bridge over the Tjitandoei, which, turning southward at Langgen, flows out into the sea. The train crosses this river again near Bodjong (at an elevation of only 25 metres). From Tasikmalaja the train has run down through regions of gradually decreasing height, and at Bodjong it reaches the lowest point. From Bodjong it runs through a region of swamps and forests, one of the most extensive forest

regions in the world, but burned bare here and there for the purpose of cultivation. The swamp is covered with reeds, some 10 metres high, and tigers, rhinoceroses, black panthers, buffaloes, crocodiles, and water fowl are found there. The chief plant in the forests is the rattan, whose long, tough, and pointed leaves have thorns with which they cling to the branches of other trees in order to support their own thin branches. It is not possible to enter forests where this tree abounds. Teak-trees are also abundantly found in this region.

Maos. This station is situated at about the middle of the main railway of Java—445 km. from Batavia and 465 km. from Soerabaja. Since no trains in Java run during the night, passengers travelling between Batavia and Soerabaja had formerly to stop at this station; but, since the building of the railway from Soerabaja to Bandoeng, most passengers ride beyond this station, further E. or W. as the case may be. Maos is one of the fever districts of Java, and, besides, it is only a small village. The government is running an hotel for the convenience of tourists. It is a well-equipped establishment, having twenty-nine bed-rooms, besides a large dining-room and a sitting-room. The charge is *fl.* 6 per day.

From this station the steam tramway runs via Poerwokerto (Pop. 13,768) and Poerbolinggo (Pop. 13,237) to Bandjarnegara (Pop. 5,875). The distance is about 105 km. (4½ hrs.' ride). To Tjilatjap, S. of Maos, there runs a branch line of the state railway.

Tjilatjap (21 km. from Maos; several trains a day). It has a population of 16,000 and is a port on the S. coast of Java facing the Indian Ocean and noted for the export of tea and tobacco. The city is built on ground that was once a swamp, and even now its coast region is muddy and full of coral reefs.

Malaria is prevalent, so much so that it is sometimes called 'the European cemetery,' and the government has withdrawn the garrison that was once stationed there. Its harbour is wide and deep even at ebb-tide, and well protected by a natural bank consisting of coral reefs. Since, however, the sea is full of hidden rocks, vessels must be cautiously piloted in and out.

Noesa Kambangan, an island lying opposite Tjilatjap, is noted for its numerous caves and Mohammedan shrines. There is a fairly extensive rubber plantation operated by the government. Along the coast are many fishing villages, and the inhabitants (who are prosperous) gain their living almost entirely from the sea.

From Koetoardjo (479 km. from Batavia) runs a branch line (12 km.) to Poerworedjo (Pop. 14,205). The regions along this route are mostly taken up with sugar-plantations, rice-fields, tobacco-plantations, and coco-palm groves. There is also a small village, *kampong* in Malay. The fast train runs from Maos to Djokjakarta (153 km.) in 2½ hrs.

Djokjakarta, 538 km. from Batavia (Kemajoran Station).

Arrival: The fast trains leaving Batavia and Buitenzorg early in the morning arrive here in the evening. The fast train, that leaves Bandoeng early in the morning and arrives at Soerabaja in the evening, passes here also. It

can also be approached from Semarang, Garoet, and other cities. The first morning train leaving any of these cities will arrive here before noon. The station of Djokjakarta is a large one, situated near the centre of the city, within easy walking distance of any of its hotels. The means of communication in the city are motor-cars and carriages. The important hotels are: Grand Hotel de Djokja (Residency Avenue), Hotel Toegoe (near the station), and Hotel Mataram (Residency Avenue). The tariff per day is *fl.* 7 and upward.

Palace of the Sultan, Djokjakarta.

The province of Djokjakarta and that of Soerakarta are collectively called Vorstenlanden ('the land of the prince'). Djokjakarta, commonly called Djokja, is the capital of the province of the same name and one of the great cities of Java. The province lies S. of Soerakarta and facing the Indian Ocean and is the smallest of the sixteen provinces of Java, about half the size of Soerakarta. On the northern border is Mt. Merapi, which divides it from Kedoe and Soerakarta. The River Opak draws its source from this mountain and flows through the middle part of the province into the Indian Ocean. The western side of this river is the most fertile plain in Java and produces tobacco, sugar, and indigo, while the eastern side consists of limy and thin soil, with several hills rising from it. The province is divided into three districts, Djokjakarta, Wates, and Wonosari. In each of the latter two is stationed a Controller, while in Djokja is a Resident, who supervises the administration of the whole province. The city of Djokjakarta ('blooming night') is situated on a broad plain near the foot of Mt. Merapi, at an elevation of 110 metres. It is cool at night and is considered to be one of the healthiest spots of Java. The city is 4 m. in length and 2½ m. in width and has a population of 80,000, of which 1,500 are Europeans and 5,300 are Chinese. Not only is it

the most important station on the route between Batavia and Soerabaja, but it is also the junction point of the line running to Semarang and of the steam-tram line running to Srandakan in the S. and Ambarawa in the N.; (this line has a branch line at Setjang to Parakan). Ambarawa is connected with Semarang by railway.

The middle part of Java, of which the regencies of Soerakarta and Djokja are the centre, was once the kingdom of Mataram, proud of its haughty disregard of European civilization and Mohammedan influence, and especially of the purity of the blood of its inhabitants. Twice (in 1628 and 1660) the king tried in vain to expel all Dutch from the kingdom. Later on, during the war with Makassar, he was obliged to ask the assistance of the Dutch, who welcomed the appeal and succeeded in obtaining as a reward the right to build up Dutch business on the coast, and also of stationing garrisons of soldiers in the territory. After 1700, the kingdom was constantly disturbed by internal disruption, and the Dutch East India Company was quick to seize the opportunity to expand its influence along the entire coast. In 1743 the king, in his will, placed the whole territory under the protection of the company. After his death the internal disruption became still worse, and the company wisely adopted the policy of dividing the territory. One-third of it was given to the brother of the late king. The present sultanate of Djokjakarta is this territory. The Sultan was, however, subordinated to the Soesoehunan of the original Mataram kingdom, by the custom of kneeling before him at Nagawen near Djokja, where they were to meet each other once a year. He did not like this, and, in order to avoid it, he welcomed the offer of the company to allow him to wear the Dutch uniform on this occasion, for it was the generally recognized privilege of any one wearing the Dutch uniform and decoration not to be required to kneel before the Soesoehunan. This led to a further quarrel between the Soesoehunan and the Sultan, in which Daendels, then Governor-General, intervened. The Sultan, as he defied the order of the Dutch government, was forced to abdicate in favour of his son, who paid the Dutch an indemnity of *fl.* 400,000. At the same time the Soesoehunan was obliged to abandon the coast duty against foreign trade that he had hitherto levied. In 1825, a son of the Sultan of Djokja, Diepo Negoro, revolted, and the revolt spread all over Central Java. When it was suppressed in 1830, the whole territory was placed under the complete control of the Dutch government. Both the sultanate of Djokjakarta and the Soesoehunan's fief of Soerakarta were made Dutch protectorates.

Both the Sultan and the Soesoehunan receive from the Dutch government the annual salary of *fl.* 450,000 and are also provided with a small army of guards. Each is nominally the administrative head of his province, and his people seem to be quite satisfied with the arrangement.

In the centre of the city is the palace of the Sultan, the magnificent building dominating the whole city. European houses are mostly situated near the palace. There are many Chinese shops and shops of native joiners. Its main road, Residency Avenue, is wide and planted with fig and banyan trees. E. of this road runs another, called Lodje Kedjil, at the southern end of which is the residency. In its spacious inner court are many sculptures collected from Boroboedoer, Brambanan, and various other places. The first impression the visitor receives in this city is that the dress of the native women is dark-coloured and, compared with that of Batavia and other coast cities, is very much less elegant. However, the natives are mostly pure Javanese and, compared with the Sundanese of Western Java, are better-looking. They have comparatively straight, narrow, and long noses, which are quite distinctive and wholly different from those of the natives living in the coastal regions, who have large, flat noses. Both in costume and manners they preserve their best

native traditions. Besides, in the vicinity of the city are found several Buddhistic remains. The visitor may very well stop here to see all these objects of interest.

Itinerary Plan :—

1st day. Sultan's Palace, Water Castle, Exhibition of Native Crafts.
2nd day. Start early in the morning to see the Buddhist remains of Mendoet and Boroboedoer, coming back to the hotel for luncheon: in the afternoon leave Djokja for Brambanan to see its ruins; in the evening arrive at Solo (Soerakarta).
3rd day. In the morning visit the palace of the Soesoehunan, the city, and its menagerie; in the afternoon leave Solo for Soerabaja; arrive at Soerabaja in the evening.

The above is the shortest possible plan of visit. If the visitor has more time to spare, he may on the second day visit Brambanan in the morning and go to Boroboedoer in the afternoon, stopping there overnight to see its brilliant sunrise, and leaving for Solo by the afternoon train of the third day, which will arrive there late in the afternoon. He can see the city in the evening of the third day and the palace and the menagerie in the morning of the fourth day, leaving the city for Soerabaja by the fast afternoon train.

Places of Interest. ***The Palace of the Sultan*** *(Kraton)*: The palace is situated in the centre of the city and is surrounded by a wall 12 ft. high, 15 ft. wide, and 4 m. in perimeter. At each of its four corners is set a large cannon. The number of inhabitants within the wall, including all nobles, officers, and merchants, is said to be about 15,000. The residence of the Sultan is built in the Javanese style of the middle of the 18th century, which is the Indian style of architecture modified by the influence of the Burman and Siamese. On entering the outer wall one finds oneself in a wide court. A little towards the right side is a reception hall, and beyond it to the right are a court-house and Mohammedan temple, which, however, are not used at present. At the left side is an iron cage containing tigers. In the middle stand two waringin-trees, the shape of which is just like a *payong* (native parasol). Their spreading and overhanging branches are meant to symbolize the helpful loyalty of the Sultan's subjects. On the S. side of the reception hall are two guards' barracks. Going between them the visitor comes to the entrance of the second wall. Inside it are also a wide court and an audience hall. The room is decorated with flower vases and pictures after the European fashion. The ceiling and the walls are brilliantly coloured and bordered by a gilded moulding. There are, besides, a dining hall, a dancing hall, the residential palaces of the Crown Prince and the Sultan's consort and concubines, a hall in which are collected elephants, tigers, and rare birds, and other beautiful buildings, and also a school intended for the education of the children of nobles. The soldiers seen here and there, standing barefooted under the shade of trees, attired in blue uniform and caps, and armed with long spears or guns, are the Sultan's guards. In the dancing hall one may chance to see the dancing exercise of court ladies or hear the peculiar Javanese music.

Those who want to visit the palace must obtain the permission of the Resident and be introduced by an official guide, who expects a certain modest tip as a reward. Men visitors are required to wear frock coats.

WATER CASTLE, DJOKJAKARTA.

The Water Castle or Taman Sari: *Taman Sari* means 'Garden of Flowers', an appropriate name for the palace where the Sultan drank and slept, surrounded by court ladies, who hovered about him like butterflies in the tropical garden. This palace is situated to the W. of the residential palace of the Sultan, reached from the hotel in about half an hour by carriage (*fl.* 3). As the carriage stops in front of the gate, Malay guides come offering their services (from 25 to 50 cents). The palace itself is now in a sad state of ruin, showing nothing but the ghostly traces of its once brilliant and luxurious life. It was built in 1758, in the time of Sultan Hamangkoe Boewono, by a Portuguese architect, but was reduced by the great earthquake of 1867 to its present state. It was built no doubt of stone, brick, and white plaster, and surrounded by a moat; but, whatever it may have been, at present it shows merely the débris of these materials. Of its wall only fragments remain, standing disjointed here and there. What was once a moat is now converted into a little cultivated field. At the centre, however, stands a solid hall with thick grey walls. It appears now like a dungeon; but the visitor will be told that this was indeed a great hall of luxury and abandon. From its side a broken stairway leads up to a tower that commands a wide view of its surroundings, and where the drunken Sultan once moved with uncertain steps to breathe the fresh, cool air that comes blowing across the palm-leaves of the garden. There was his bed-

room, and the stone bedstead and the base of the mosquito-net are still left there. The room is found at the furthest end of the tower, past two or three small side rooms. It is dark and noisome, as it is now inhabited only by bats and lizards. It is told that once Sultan Hamankoe Boewono IV made an appointment with Marshal Daendels to meet him at a certain hour, and the latter waited and waited, for more than an hour after the appointed time, and, when finally he asked the reason of the delay, the Sultan was found revelling in the delights of a luxurious feast; thereupon, the outraged Marshal rushed into the hall, seized him, and sent him to the garrison of the Dutch army.

There is a pond called *Simoor Gamelang* ('musical spring'). Around its now dark and stagnant water is a gallery having archways at several places, and several small summer-houses cast dark shadows on the water. It was the place where hundreds of court ladies bathed and powdered and painted, but it is now the dismal abode of croaking frogs.

It is said that this Water Castle was designed, so that in case of emergency it could be flooded by the water of the moat, and the Sultan could flee from its subterranean gallery, but now there can be found no traces of any such structure.

Exhibition of Native Crafts: This is a flat building situated near the Residency and opposite Hotel Toegoe. In it are displayed Javanese calico, natives' brass works (flower vases, gongs, etc.; but these are produced more abundantly in Soerabaja, and the visitor is advised to buy them there rather than here), puppets of gilt and painted leather, gold and silver wares, teak furniture, ivory works (decorative fans, book-marks, hand bags, and note books), picture postcards, etc. They are all priced and offered for sale to the general public. There the visitor is shown by specimens the process of manufacturing calico.

Calico: Javanese calico is famous all over the world for the quaint beauty of its design and the durable quality of its colour. Solo and Djokja are the centre of this industry, and visitors to this place would naturally like to buy some; but they must be careful not to pick up the cheaper stuff, which appears just as pretty, but in fact is of a very inferior quality. That offered by the peddler at the hotel should be avoided, unless examined and recommended by an expert. For the stranger the best place to buy it is the exhibition hall.

Cost of Production and Price: The major part of the cost of production is expended on the drawing, which requires both expert training and considerable painstaking time. The drawing on the average sarong of three feet wide and twelve feet long costs about five guilders by piece-work. To produce a piece of the best Batik calico will take nearly two months. A piece of stamped work can be bought for one guilder or even less, but the good kind of handwork will cost from seven or eight to twenty or thirty guilders. The very best kind will sometimes sell as high as fifty guilders.

Varieties of the Product:—*Kain Kapala* (2½ ft. square, worn by Javanese men in place of caps). *Slendang* (about 6 ft long, the ordinary narrower width, used by Javanese women as shawls, wrappers, and supporting cloths for the babies borne on their waists). *Sarong* (3 ft. wide and 6 ft. long, used by Javanese men and women to wrap round their bodies below the breast). *Kain Pandjang*, (of the same size and used for the same purpose as Sarong; but, unlike the latter, which is decorated with a special pattern on one end, it is evenly

decorated all over). Besides these, table-cloths and window curtains are produced specially for Europeans.

Patterns: They are various, but the Sultan and the Soesoehunan have their particular patterns, which are not allowed to be used for any other purposes than their own. Lately good and much cheaper imitations have been produced in Semarang, and they are exported to great cities like Batavia, where the original products of Solo and Djokja are driven out of the market by the inevitable law of competition. While these modern imitations are creating an increasing demand, the original handwork is gradually losing its market, and in Cheribon and Indramajoe many are going out of the business.

(C) Djokjakarta to Soerabaja.

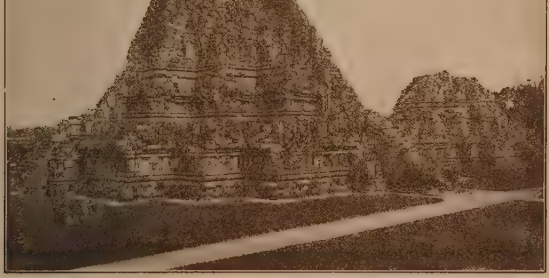
Brambanan (Parambanan): The ruins of Brambanan are situated about one mile from the Barambanan Station, the fourth station on the route from Djokja to Solo (the distance from Djokja is 17 km. and about ½ hr.'s ride). Between Djokja and Solo seven local trains run every day. One may also go there by automobile. Three hours will be enough to allow for the journey both ways and a visit to the ruins. In the vicinity of Brambanan are several temples, —Sewoe, Sari, Kalassan, and others. Of these, Tjandi Kali Bening of Kalassan is the most noteworthy. It is a small temple, but the bas-reliefs on its wall are excellent. But the one which is commonly called the temple of Brambanan is Loro Djonggrang. Within the enclosure of this temple is a small hotel, where visitors particularly interested in the study of this region may stay. An inspection fee of 50 cents is charged.

The Ruins of Brambanan.

Tjandi Loro Djonggrang: This temple is situated about twenty miles N. E. of Djokja, on the plain of Brambanan near the Opak. It is a Brahman temple, consecrated chiefly to King Siva, his consort, Kali, (also called Doerga, Parvati, and Loro Djonggrang), and daughter, Gunesh. It was probably built in the 9th century, but had long been buried beneath the surface and neglected, until in 1797 it was discovered by a Dutch officer, who was examining the region with a view to building a fortress. Even then nobody paid much attention to it, and it was only in 1885 that the Dutch government began to repair and preserve it. Both in appearance and structural technique it is different from the temple of Boroboedoer. It is in a worse state of ruin than that, but the bas-reliefs of its wall are superior even to those of Boroboedoer. Unfortunately only a part of it is left. It appears that when it was built it consisted of eight main elliptical edifices in the centre, surrounded by one hundred and fifty-seven smaller edifices arranged in a threefold circle, the whole being encircled by a triple wall. Of the eight central temples, three stood on the E. and three on the W. side, and one each on the N. and S. sides. At present, only the three on the W. side and the middle one of the E. side are left, the middle one of the W. side being in the best state of preservation.

This temple is supposed to be at least 1,100 years old. In other words, it is coeval with the temple of Boroboedoer. That these two great temples were built at the same time and in the same locality, one being unquestionably a Buddhistic monument, while the other is consecrated to Brahman deities,

such as Brahma, Vishnu, and Siva, is a problem that historians and archæologists dispute about. According to the opinion of Dr. Gronemann, the famous archæologist of Java, Brambanan was also a city of Buddhists and the numerous edifices of this temple were the tombs of nobles of the Buddhist faith. He maintains that the above-mentioned Brahman deities were worshipped by the North Indian Buddhists as the forerunners of Buddha, and that Buddhism was first introduced into Java by these North Indian Buddhists. He supports his argument by saying that even in the temple of Boroboedoer there are some images of Hindoo deities, and that these deities were consecrated in this temple just in the same spirit that Christian saints are consecrated in the Roman Catholic church, and therefore, that no image of Buddha is found in this temple is not strange at all, but rather what would naturally be expected. Furthermore, he sees the proof of his argument in the fact, that the decoration of the temple is of a Buddhistic character, especially those trees, monster-animals, and birds with human heads, that decorate the socle of the wall.



BRAMBANAN TEMPLE.

That the temple of Brambanan was a burial place is proved by various objects excavated at the time of its repair work. It was then found that under the image of each deity is a deep hole covered with dirt and stones and bricks, below which is a square stone box, covered with a large, flat stone. One of such boxes, excavated from a hole in the Siva temple, contained a half-burned human skeleton and various gold, silver, and copper articles, also some Hindoo coins. From another hole was excavated a copper plate with an inscription in Javanese characters. From a hole in the Brahma temple were excavated a pot and various other articles of decoration. Most of these holes have been excavated.

Each pagoda stands on a square foundation, and its tower is pointed at the end. The building material consists of small blocks of lava. Its outer wall is decorated with beautifully-executed bas-reliefs, the designs of which are taken mostly from Hindoo mythology. There are also various figures of birds, with many figures of monkeys placed among them. Especially valuable are the bas-reliefs of the horizontal frames. They might well prove a source of inspiration even for modern sculptors.

Inside the pagoda are four rooms, besides a small vestibule. The middle room is the largest, measuring about twenty feet square. In it, facing southward, is placed an image of Siva (a Hindoo deity, representing both constructive and destructive powers, and also regarded as the god of music and dancing, and always represented riding on an ox). This Siva assumes the form of Mahadewa and has four arms; he has a beard and wears a serpent as a girdle. In the W. room is placed an image of Ganesha, a son of Siva. His head and limbs are those of an elephant, and he wears a serpent from over his left shoulder around the breast. In the S. room, Siva assumes the form of Guru, a hermit, and stands with a trident and a pitcher in his hands. In the N. room is an image of Kali (called Loro Djonggrang or Doerga). Kali is the wife of Siva and has eight arms. The contour of her breast and hips has always been an object of admiration to artists. She is riding on an ox, and one hand grasps the hair of Maheso, a small demon. Other hands hold a shield, a trident, a bow, an arrow, and a spear respectively. The image is six feet high. The name of the temple, Loro Djonggrang, was taken from that of this image.

In the S. pagoda is an image of four-handed Brahma, but it is now spoiled. In the N. pagoda is an image of Vishnu. Of the three west-side pagodas the middle one is the largest. In its left room is an image of Sacrya riding in a chariot, and in the right room are an image of Tjandra and some figures of horses.

Within the central enclosure there are other sculptures, such as Brahma, Siva on horseback, Nandi, a sacred ox, etc. Of these the most noteworthy one is the sculpture commonly called 'The Three Graces.' It represents what Mohammedans call beauties of paradise, 'gopis.' They are figures of three beautiful girls. It is said that a certain rich European offered an extraordinarily high price for this sculpture, but could not obtain it. The group stands at a corner of the outer wall, and the visitor is cautioned not to miss it.

As already stated, the natives call this monument 'Loro Djonggrang,' (Loro meaning 'lady'). There is a tradition about this lady, which runs briefly as follows:

A long, long time ago there was a Sultan of Brambanan, called Ratu Boko, who had a daughter called Djonggrang and also an adopted son, called Raden Gupolo, whose real father had been killed by the Sultan of Pengging. Gupolo was meditating vengeance, and, when he found that his father's enemy had a daughter, he proposed to marry her and at the same time asked for the assistance of his adopted father, Boko. But the Sultan of Pengging discovered the treachery, and so he planned to attack Boko. He caused the whole country to be searched for the strongest man, who would undertake the task and defeat Boko, and got two sons of a hermit, called Damar Moyo, living at the foot of Mt. Soembing. The two brothers, called Bondowoso and Bambang Kandilaras, agreed to help the Sultan, on the condition that, if they succeeded, one should marry his daughter and the other should have one-half of his territory. Then they started to attack Boko. But this Boko was no ordinary Sultan; he was strong, and his breath had the miraculous power of blowing off any man who attempted to approach him. Against such superhuman power even the two brothers could do nothing. Twice they attacked him, but twice they were defeated, and in the second encounter their army was so crushed, that both Bondowoso and Bambang Kandilaras had to hide themselves in the mountains

and valleys. Thereupon their father, Moyo, sent them a charm, which when sung loud had the miraculous power of making the singer superhumanly strong, as strong as several thousand elephants. Armed with this miraculous weapon, the two brothers once more attacked Boko. He was sleeping when a messenger brought him the news of the attack. He did not take it at all seriously, saying that he could beat them single-handed. So saying he started to meet the enemy. But this time his breath had no effect upon Bondowoso and Bambang Kandilaras; he had to encounter them at close quarters. The two armies fought in deadly combat. The whole earth shook, and blood was spilled in such quantities that it made a lake, which is the present Lake Powoniyan. At last Bondowoso summoned all his strength and with one mighty effort pushed Boko into the lake. Boko sent forth a cry that made a terrible sound throughout the whole country. (The inhabitants near the lake believe even now that in the calm hours of night, if they listen attentively, they can hear the echo of this sound.) Raden Gupolo, his adopted son, hearing this sound, hurried to his rescue with a certain miraculous medicine that would revive him at once; but, as he was about to apply it to the dying hero, Bambang shot it out of his hand with an arrow. Then Bondowoso cut off Gupolo's head and cast it towards the W., where it became Mt. Gampeng. His heart was also cut out and cast towards the S.W., where it became Mt. Woongkel.

The victorious brothers were rewarded according to the contract. Bambang Kandilaras married the Sultan's daughter, and Bondowoso was made the ruler of Brambanan. One day Bondowoso saw Djonggrang, the daughter of Boko, and, enamoured of her beauty, he proposed to marry her. She would not accept her father's enemy as her husband, but, fearing what he might do if refused, she replied that she would gladly accept him, if he would be so kind as to build six temples and one thousand statues of her father and all his ancestors within a single night, as a proof of his love for her. Thereupon, Bondowoso appealed to his father Moyo, the Sultan of Penggung, and his brother for help. Earth Spirit was also summoned to assist by Moyo's charm. The work was carried on in great haste, and the six temples and nine hundred and ninety nine statues were made in a single night. Djonggrang was sleeping when she heard the sound of the great work going on nearly to its completion. She told her maid to open the door and investigate, and when the maid reported to her that it was nearly completed, she made her sprinkle perfume on the spot where Earth Spirit was most active. The perfume had the magic effect of stopping the spirit's activity, and the last statue could not be done within the prescribed time. Bondowoso, enraged at this, cursed all the women of Brambanan, praying to the gods that they should not marry young. (For this reason, even now the women of Brambanan do not marry until twenty-four or five years of age, though the women of its vicinity usually marry at the age of fourteen.) Bondowoso, though disappointed, called on Djonggrang, hoping that she might yet accept him. The beautiful maiden asked him mockingly if the work were finished. Thereupon he replied, "No, one statue is lacking and *you* shall be that one." And at these words Djonggrang turned into stone, and that is the statue of Djonggrang which one now sees in the temple.

Leaving Loro Djonggrang, one follows the road that runs between Soerakarta and Djokjakarta northward past the village of Kloerak. Turning from here on the right, one comes to Tjandi Loembong, a large pagoda surrounded by sixteen small ones, having good bas reliefs of life sized figures of men and women. Proceeding further northward, one goes past Tjandi Boebrah to Tjandi Sewoe.

Tjandi Sewoe. Sewoe is sometimes called 'Thousand Temple.' It consists of a large cruciform temple in the centre, surrounded by numerous smaller ones arranged in a four fold square. Their total number is 249, and each is eleven feet square and eighteen feet high. Once there was an image of Buddha in each temple, but at present only twenty five such images are left. Unlike the temple of Borobodoer, this temple has its galleries all arranged in one horizontal

plane. The total length of these galleries is about 2,000 ft., and the outer wall has an entrance at each side, from which a path leads to the central pagoda. By each side of the entrance is a figure of a fat man with a beard and tusk-like teeth, bulging eyes, and wearing a serpent round the breast and arms, and kneeling on one knee (one leg folded and the other bent). The similar figures in front of the Residency of Djokjakarta were removed from here. According to an old record, the monument of Sewoe was built in 1094, and reduced to its present state by the earthquake following the eruption of Mt. Merapi in 1867.

Besides these, there are in this vicinity Tjandi Plaosam, Tjandi Kalongan, and others, but they are smaller and very much gone to ruin.

The above are the most important Buddhistic remains in Central Java, but those who have time and interest may visit Dieng Plateau, S.W. of Semarang (see P. 445). There are many temples on this plateau, perhaps more than anywhere else in Java, and lately the Dutch government has undertaken the repair work of these ruins. For the visitor specially interested in the study of such things, Dr. I. Gronemann's work, 'The Hindu Ruins in the Plain of Parambanan' (G. C., T. Van Dorp & Co., Semarang), sold at any bookstore in Batavia and Soerabaja, is recommended.

Soerakarta or Solo.

The city of Soerakarta is situated at a distance of 603 km. (about 13 hrs.' ride) from Batavia, and 60 km. (about 1 ½ hrs.' ride) from Djokjakarta.

The city is the junction point of the main line between Batavia and Soerabaja and the line between Semarang and Djokjakarta. To Bojolali runs a steam tramway. It is planned to build a tramway to Patjitan on the southern coast. The city is 253 km. (4 hrs.' ride) from Soerabaja, and 109 km. (1 hr. 50 mins.' ride) from Semarang. The line between Semarang and Djokjakarta, extending for 205 km., including the Willem Branch Line of 37 km., is the only broad gauge system in the Dutch East Indies. It is also the first railway built in Java, (begun by a private company in 1863, and a part of it completed in 1867 and operated for the first time in the same year). From Djokja to Soerakarta the line runs through a wide plain with many rice-fields.

Hotel: Its only hotel is Hotel Sleir (charge, *fl.* 7), in the centre of the city, a fairly long distance from the station.

General Description of the City. Soerakarta, now called Solo by the natives, was once called Kartasura, which means 'a city built by heroes.' It is the capital of the province of the same name, ruled by the Soesoehunan, who, before the advent of the Dutch influence, had ruled the whole of Java. At present the province is a protectorate of the Dutch government, The city has a population of about 120,000, of which 1,500 are Europeans and 6,500 are Chinese. The costume and manners of the native inhabitants still preserve the original Javanese style, even more strongly than those of Djokja. For about fourteen miles around the city is verdant country, covered with coco-palms, fig-trees, tamarinds, etc., and in the centre of the city are the palace, surrounded by a white wall, the Dutch residency, the residential palace of Prince Mangkoe Negoro, military barracks, and other big buildings. The streets leading to these buildings are beautiful avenues of waringins,

the symbol of power and eternity. Near the palace and the residency are many Europeans' houses and also a Protestant church. The Chinese quarter is the business section of the city. The natives' occupations are mostly those of sarong-peddlers, blacksmiths, and harness-makers.

The Kraton (Palace) of the Soesoehunan: The palace and the Dutch residency stand facing each other across a spacious tract of vacant ground. The former is surrounded by a white wall, and looked at from outside it appears rather unattractive and inferior to the latter. But its interior is very much like that of the Sultan of Djokja's palace. There are four gates in the wall which also serve the purpose of observation towers. Within the wall are many houses, in which live about ten thousand people, including the nobles and officers and many court ladies. There are also a small body of guards and about fifty carriages. The Soesoehunan's world is practically limited to the space within the wall, and evidently it is meant to be a little kingdom by itself, for there dwell there, besides officers and priests, gold- and silver-smiths, civil engineers, stone masons, manufacturers of musical instruments, stage furniture, and puppets, all supported by the Soesoehunan. His private apartments are at the furthest end of the palace, and his audience-room is at the front, open on three sides and connected with the interior at the other end. This room is built of rare woods and decorated with carvings. On his own birthday, on the birthday of the Dutch sovereign, and on other public occasions, the Soesoehunan comes to this room, accompanied by gorgeously dressed court officers, to give audience to all the officials of his territory. He sits on the throne brilliantly decorated with jewels. By his side sits the Dutch Resident. When the formal ceremony is over, the callers will be regaled with wine, fish, cake, and fruits, and amid the feast the Soesoehunan retires, followed by the procession of court officers. To the ordinary natives, gathered in the front court to witness the procession, the Soesoehunan is the personification of their god.

He receives from the Dutch government an annual salary of £70,000, and, though he is nominally the ruler of the province, the real power of control is in the hands of the Resident. The accession to the throne, the appointment and dismissal of officers, and all other administrative and judicial measures, must be sanctioned by the Resident. Even the private life of the Soesoehunan is watched by the vigilant eyes of the Dutch government. The important industries of the territory, such as the coffee, teak, salt and mining industries, are also under the control of the Dutch. On public occasions the Resident sits at the right side of the throne, which is the superior position, and his office, protected by Fort Vastenburg at the back, looks much more impressive than the palace.

Those who want to visit the palace must obtain a permit from the Residency.

There is a menagerie in the city, belonging to the Soesoehunan and containing panthers, tigers, crocodiles, monkeys, snakes, various birds, etc. The park in which it is housed is spacious and has a beautiful pond with lotus flowers. It is open to the general public for a trifling admission fee.

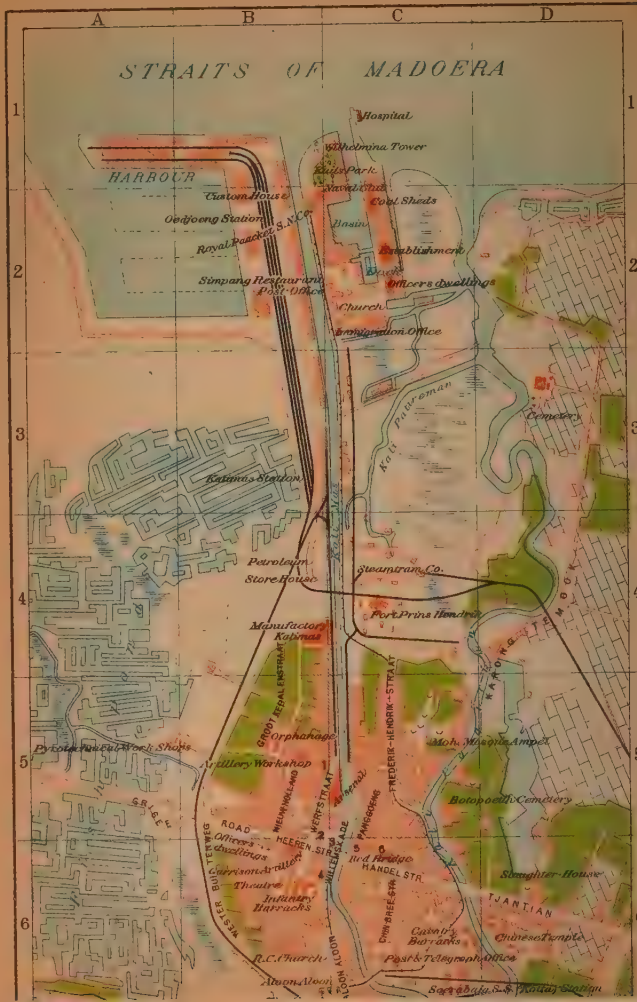
Besides these, there is no special object of interest; but the general view of the city itself, as one observes it from the veranda of the Hotel Sleir, is an interesting picture of Javanese life and manners.

The ordinary men wear trousers and simple jackets, but over the trousers and around the waist they sometimes wrap a *sarong*. Some have their hair tied at the back and some have it close shaven. Some decorate it with a semicircular comb in front, and some wear caps, which look like inverted flower-pots. All women wear their hair tied in a knot at the back, and they are dressed in *sarong* and *kabaya*. Women of the upper class wear slippers, but those below the middle class go barefooted. They look more refined than other Javanese. The most interesting sight, however, can be seen near the palace, where the Soesoehunan's direct officers walk proudly, with an air of contempt for, and indifference to, all the worldly cares of the lower class of society. They are attired gorgeously and wear one or two *krisses* (short swords), thrust through the wide belt, sometimes diagonally at the right hip and sometimes straight at the back. They are accompanied by young attendants, one of whom holds up a long-handled parasol (or *payong*) from behind. On public occasions they ride in carriages, in which the attendant sits on the back seat and holds up a payong over his master. The payong is a unique feature seen only in this city. It is a large paper parasol, beautifully painted in different colours according to the difference of ranks. That of the Resident and the Soesoehunan is gold; that of the latter's consort and princesses, yellow; that of other members of his family, white; that of the regent and his equals, blue with a gold rim; that of the district officer and his equals, red; that of the village officer and his equals, dark grey; and that of the common people, any other colours. This colour distinction was probably adopted from Hindoo tradition. The house of a Soesoehunan's direct officer is guarded by a policeman armed with a long spear. According to the old custom, the Soesoehunan's palace should have four gates at the front entrance, and the houses of his officers should have three, or two, or only one gate, according to their ranks.

The *kris* or *krees* (sword) worn at ordinary times, is smaller than those used in the time of war. At present it is worn only as an ornament. Excepting those of the lowest class, every male at the age of fourteen generally wears one or more krisses. Some of the highest rank often wear three or four. Women of high rank also wear them. In olden times they were worn only by officers and warriors; but, since the introduction of Mohammedanism, the privilege of wearing them has been extended to all people. At present, however, the people of the lowest class and merchants do not wear them.

The blade of the kris is flat and generally from twelve to sixteen inches long; some are straight and some are curved. The hilt has no guard, since the blade is spread out at the base of the hilt, making there a natural guard. The handle is made of wood, or metal, or horn, and decorated with a beautiful carving of the upper part of a man or of the head of an animal. The handle of the sword used by a noble or an officer of high rank is straight, but that of the lower classes is somewhat curved. The blade is made of steel plates containing some nickel. Many plates are beaten together into one blade by a laboriously repeated process, hence the wavy marks on the surface of the blade. When this smith work is done, the blade is put into a solution of arsenical acid. By its oxidizing action the steel becomes greyish and the nickel is dissolved out, leaving white wavy marks on the surface. It is said that the best material for the blade is the meteoric iron preserved within the palace of Soerakarta, which contains five per cent of nickel, and that there is an iron mine in Celebes, the iron of which contains some nickel. The sheath is made of wood, plated with gold or silver or brass, and where it meets the handle it is ornamented with gold or silver string wound tightly round it. Some are embossed with gems. The swordsmith once enjoyed special privileges under the patronage of the nobility, but at present he is one of the common workmen of the city.

Solo may be visited at any time of the year without any special disadvantage; but if the tourist can arrange to visit it either on the 31st of August (the birthday of the Dutch Queen), or the 1st of



STRAITS OF MADOERA
A
B
C
D
1
2
3
4
5
6
Hospital
Wilhelmina Tower
Kuils Park
Naval Club
Coal Sheds
HARBOUR
Custom House
Oedjoeng Station
Royal Paacket S.N.Co.
Basin
Establishment
Simpang Restaurant
Post-Office
Officers dwellings
Church
Immigration Office
Kali Pateroman
Cemetery
Kalimas Station
Kali Mas
Petroleum
Store House
Steamtram Co.
Fort Prins Hendrik
Manufactory
Kalimas
KARONG TEMOOK
GROOT TEGAL ENSTRAAT
FREDERIK-HENDRIK-STRAAT
Orphanage
Moh. Mosque Ampel
Pyrotechnical Work Shops
Artillery Workshop
Botopoeth Cemetery
GRIEF
WIELINGHOLLAND
WERFSTRAAT
Arsenal
PANGGOENG
ROAD
HEEREN STR.
WILLEMSKADE
Officers dwellings
Garrison Artillery
Theatre
Infantry Barracks
Red Bridge
HANDEL STR.
Slaughter House
WESTER BUITENWEG
CHINESE STR.
TJANTIAN
Cavalry Barracks
Chinese Temple
R.C. Church
Post & Telegraph Office
ALOON ALOON
Aloon Aloon
Soerabaja S.S. Kolaij Station

Coffee State House
Court of Justice
Soerabaja N.I.S. Station
Djagalan Bridge
Kali Anjar Bridge
Ketabang Bridge
Naval Barracks
Telephone Offices
Simpang Park
Simpang Club
Simpang Hotel
Simpang Station
Gardening Bridge
Gardening Station
Gardening Square
Sedjerapsaker's Park
Juliana Boulevard
Tamarinde Laan
Pasar
Groote Station
Java Straat
Sumatra Straat
Weg Kedoengdoro
Weg Kedoengarjan
Weg Kalimas Baroe
Weg Kepoetraan
Weg Kalioga
Weg Kalwesi Laan
Embong Woenoredjo
Embong Kenongo
Embong Somiri
Kedongredjo
Pasar Pecindilan
Pantjoran Bridge
Pasar
Hotel Wijnveld
Telephone Offices
Kraton Park
Simpang Boulevard
Simpang Road
Simpang Weg
Malang
Embong Malang
Embong Masonic Lodge
Princessen Laan
Regentesse Laan
Weg Kranggan
Kali Mas
Kali Anjar
Pasar Pecindilan
Pantjoran Bridge
Cemetery
Plampitan
Genteng
Noemplak Hospital
Noemplak Bridge
Baliwerte
Heerenweg (Pasar Besar)
Pecindilan
Noemplak
Gresikpoort
Tjoendoengan
Soerabaja
Kedongredjo
Kedoengarjan
Simpang Doerene
Simpang Weg
Simpang Road
Simpang Park
Simpang Club
Simpang Hotel
Simpang Station
Gardening Bridge
Gardening Square
Gardening Station
Sedjerapsaker's Park
Juliana Boulevard
Tamarinde Laan
Pasar
Groote Station
Java Straat
Sumatra Straat
Weg Kalioga
Weg Kalwesi Laan
Weg Kepoetraan
Embong Woenoredjo
Embong Kenongo
Embong Somiri
Weg Kalimas Baroe
Weg Kedoengdoro
Weg Kedoengarjan
Kedongredjo
Princessen Laan
Regentesse Laan
Weg Kranggan
Kali Mas
Kali Anjar
Noemplak
Plampitan
Genteng
Baliwerte
Heerenweg (Pasar Besar)
Pecindilan
Gresikpoort
Tjoendoengan
Soerabaja
Naval Barracks
Telephone Offices
Kraton Park
Simpang Boulevard

January, he will have an opportunity of seeing the court ceremony and the dancing of *bedajas* (dancing girls of the Soesoehunan). There is a fast season, called *Poeasa*, (which comes generally in October). This is the same Mohammedan custom that the visitor may have observed elsewhere.

(D) Soerakarta to Soerabaja.

These two cities are connected by a line of the Java State Railway. The distance is 253 km. Four trains run daily, and two of them are fast trains, one in the morning and the other in the afternoon. The journey will take four to five hours.

The train leaving Soerakarta runs eastward across the plain spreading along the River Bengawan or Solo. On the S. rises Mt. Lawoe, on the border of Soerakarta and Madioen. The line crosses many rivers that rise in the mountains of this border land, and in about two hours it arrives at the Madioen Station (97 km. from Solo).

Madioen is the capital of the residency of the same name, situated in the plain along the Madioen, a branch stream of the Bengawan. This plain is very fertile and produces cotton, coffee, tobacco, sugar, and indigo. To its W. rises Mt. Lawoe and to its E., Mt. Wilis Geb. Along its southern coast lies a limy mountain ridge, where rice is the chief production. The city has a population of about 25,000 and is the seat of the Resident. Near it is a sugar factory. From here to Ponorogo on the N. there runs a steam-tram (33 km., in about 3 hrs.). Ponorogo is a great market city in the residency and has a population of 85,000. The steam-tram runs from here farther S. to Balong (17 km.) and westward to Soemoroto (7 km.). S. W. of Ponorogo is Patjitan, one of the few ports on the southern coast of Java, and noted particularly for the exportation of rice. Steam-tram connection between this port and Ponorogo is planned.

Leaving Madioen, the train runs eastward across the Lengkong—Mt. Pandan being descried towards the N.—and arrives at Kertosono (166 km. from Solo, in 3½ hrs). From here a branch line runs to Kediri and farther southward to Toeloengagoeng; there it turns eastward and runs, via Blitar and Malang, to Bangil, where it joins with the Soerabaja eastern line.

Djombang (182 km. from Solo) is a city with a population of 12,000, and there are many sugar factories in the vicinity. From here the stream-tram runs to Babat, a station on the Dutch Indian Company's line from Semarang to Soerabaja.

Modjokerto (206 km. from Solo) is the next largest city to Soerabaja in the same residency and has a population of 100,000. The steam-tram runs from here to Pare, Kediri, Porrong, and Bangil; and a branch railway line connects it with other smaller cities of the residency. The main line runs from here to Tarik, from where a branch line runs to Sidoardjo. The latter is a city with a population of about 10,000 and is noted for the production of rice and sugar. It is surrounded by a wide plain on all sides, and far to the S. rise the Ardjoeno Mountains. In the rice and sugar fields, native men and women are seen at work with a parasol in one hand and a hoe in the other. The fields are followed by palm-groves, with native houses under their shade. Each house is enclosed by a bamboo fence. In due course the train will reach Soerabaja.

Route XXIX. Soerabaja.

Arrival. Those coming from Batavia, Bandoeng, Solo, etc., by train arrive at Goebeng Station (Pl. D 9); but those who do not care to stop at this city should ride to Soerabaja S.S. (Kotta) Station (Pl. C 6), from where they can go either by horse carriage or steam-tram to Oedjoeng (Pl. B 2). Steamers coming to this port anchor in the straits of Madoera, whence passengers have to take a motor-boat or a ferry-boat, called *tambang*, to Oedjoeng. From there they may go to Simpang, the hotel district, either by the hotel motor-car, or the steam-tram, or by the carriage called *kassong*.

Custom-House (Pl. B 2): Its examination is not very strict; but persons carrying fire-arms and ammunition are subjected to a rigid investigation.

Hotels: All important hotels and restaurants are located at Simpang, not far from Goebeng Station. They are: Oranje Hotel (Pl. 11, C 8), Toendjoengan Road (*fl.* 7 12; 80 rooms); Simpang Hotel (Pl. 13, C 8) Simpang Road (*fl.* 6-8); Sarkies Hotel (Pl. 12, C 8), Embong Malang Road; Pension van Vloten, Embong Malang Road; Hotel des Indes (Pl. 1, B 5), Werfstraat, the lower city, etc.

Restaurants: Stam and Weyns and Simpang Restaurant (Pl. C 9) Simpang Road; Hellendoorn (Pl. 8, C 7), Aloon Aloon; Grimm & Co., Pasar Besar; Oei Moo Liem (beer-hall), Kembang Djoepoen (with a Chinese proprietor).

Clubs: Club Concordia (Pl. 9, B 8), at the northern end of Toendjoengan; Simpang Club (Pl. 15, C 9), at Simpang Park, Simpang Road. These two are the best-known clubs in Soerabaja. Besides these, there is a small club, called the Naval Club Modderlust (Pl. B 2), by Kuiles Park near the seashore.

Note: In these clubs and restaurants there is generally a musical entertainment every evening.

Newspapers: Das Soerabaja Handelsblad (a commercial paper).

Banks: Chartered Bank of India, Australia, & China, Panggoeng; Colonial Bank (Pl. 4, B 6), Willemskade; Hongkong and Shanghai Banking Corporation (Pl. 6, C 6) Chinese Quarter, Handelsstraat (or Kembang Djoepoen); Java Bank, Schoolweg; Mercantile Bank of India, Ltd. (agents: Messrs Fraser, Eaton & Co.), Willemskade; Netherlands India Commercial Bank, Societeitstraat; Netherlands Indian Escompto Maatschappij, Panggoeng.

Note: These banks close at 4.30 p.m.

Post-Office: At the corner of Breestraat and Simpangscheweg.

Important Mercantile Houses.

Photographers:
Karkdjian, Tiendjoengan (in front of Oranje Hotel).
Karli, Simpang.

Clothier:
Henderson & Co., Pasar Besar.
W. Savelkaul, Pasar Besar.

Book Store:
Van Dorp & Co. Societeitstraat.

Victualler:
Stame & Weyns, Simpang.
Oei Moo Liem, Kembang Djoepoen.

Apothecary:
*Simpang Apotheek, Toendjoengan.
*Nederl. Indische Apotheek, Societeitstraat.

Dealer in Native Products:
Toko Toutoren, Gemblongan Street.

* Information concerning the city's physicians and hospitals can be obtained in these two shops.

Means of Communication:—***Railway.*** Station—(1) Soerabaja S. S. (Kotta) Station (the main station in the centre of the city; Pl. C 6).

(2) Goebeng Station (in the southern part of the city, near the hotel district, therefore conveniently situated for the general tourist; Pl. D 9).

(3) Soerabaja N. I. S. Station (in the western part of the city; those going to Semarang, via Grisee, Tjipoe, and Goendih, start from this station; Pl. B 7).

(1) Southern Route to Batavia: The fast train going to Batavia, via Solo, Maos, Bandoeng, etc., leaves from Soerabaja S. S. (Kotta) Station. Passengers on this train, wishing to go to Batavia via Semarang, may change at Solo and, going via Goendih and Semarang, join the train running on the northern route to Batavia; but this will, of course, take a long time.

Northern Route to Batavia: The train leaves Soerabaja N.I.S. Station for Batavia, via Tjipoe, Goendih, Semarang, Cheribon, etc.

(2) Malang Plateau Link (see P. 456).

(3) Route to Pasoeroean, Probolinggo, and Bondowoso: The fast through train leaves once a day from Soerabaja S. S. (Kotta) Station for Panaroekan, via the above-mentioned stations. Besides this, there are several local trains between them. There is also a fairly fast train from Kalisat to Banjoewangi, which connects with the above fast through train.

(4) Route to Grisee: The train leaves Soerabaja N. I. S. Station for Grisee five times daily. From this station to Soemari there run several trains daily.

Steam-tram. (1) Oost-Java Steam-tram Co.'s Line runs from Oedjong Port through the centre of the city to Wonokromo, or Sepandjang, in the S. This is the busiest steam-tramway in the city and has eight stations, namely, Oedjong, Fort Prins Hendrik, Staatsspoor, Stadstuin, Simpang, Groedo, Wonokromo, and Sepandjang. The trams run from a little after five o'clock in the morning till about six o'clock in the afternoon, once every thirty minutes from each end. About one-half of these cars go to Sepandjang, and from Sepandjang a car runs six times a day to Krian O. J. S. (14 km.) in a suburb of the city. This car carries second class passengers only.

(2) Another line runs from Soerabaja N. I. S. Station to Soemari (25 km.), through the western suburb of the city and via Tandes, Kandangan, Semimi, Benowo, and Tjermee, the cars running seven or eight times daily from both ends. About five of these continue beyond Soemari to Grisee (40 km. from Soerabaja) on the north-eastern coast. All the cars of this line, except the one going to Tjepoe or Goendih, which carries first class passengers, carry third class passengers only.

Hotel Carriages: These are called 'mylord.' The minimum time limit is two hours, and the fare for that period is *fl.* 2 for an ordinary carriage and *fl.* 3 for a rubber-tyred one. ***Hackney***

Carriages: A four-wheeled, team carriage can be had at the rate of from *fl.* 1 to 1½. There is also a small two-wheeled carriage, called a dog-cart, (60 cents an hour). A motor-car can also be had, if desired.

The carriage and motor-car company is at Toendjoengan.

Steamship Companies.

Anemaet & Co., agents for the Compagnie des Messageries Maritimes (French Mail), Chineesche Voorstraat.

Aspin, Miller & Co., agents for the Pacific Mail S.S. Co., and for the Occidental & Oriental S.S. Co., Panggoong.

Behn, Meyer & Co., agents for the North German Lloyd, Chineesche Voorstraat

Erdmann & Sielcken, agents for the Hamburg American Line, Panggoong.

Fraser, Eaton & Co , agents for the Netherland Lloyd, the S.S. Co. 'Oceaan,' and the Rheinsch Westfalischer Lloyd, Willemskade.

Internationale Crediet-en & Handelsvereeniging 'Rotterdam,' agents for the Rotterdam Lloyd, Willemspleinstraat.

Maintz & Co., agents for the Austrian Lloyd at Trieste and the German Australian S.S. Co. at Hamburg, Chineesche Voorstraat.

The Ships' Agency Ltd., agents for the Royal Packet Co., the 'Netherland' Royal Mail Line, the Java-Bengal Line, and the Java-China-Japan Line, Willemskade.

General Description of the City. Soerabaja is the capital of the province of the same name, situated about the mouth of the Kali Mas, the lower stream of the Brantas, running through the eastern part of Java. The city is in 7°14′ S. lat. and 112°44′ E. long. and faces Madoera Island across Madoera Straits. It is the greatest trading port of Java, and its busy streets present an altogether different appearance from the calm, dozing streets of Batavia. Unlike the houses of Batavia and Buitenzorg, which stand far away from the streets beyond the front garden, the houses of this city mostly stand directly on the street and are marked with signboards, so that the visitor can easily find the required number and name, while in Batavia and Buitenzorg one has to cross the front garden to see the number of the house one is looking for. In the business sections of these cities one rarely finds advertizing signs, except those of life insurance companies; but in Soerabaja every business is seen trying to push to the front. The total population of the city is 150,198, of whom 14,843 are Chinese, 8,063 Europeans, 2,482 Arabians, 124,473 natives, and 337 are other Asiatics. These people are all strenuous seekers of money. The Chinese are especially active, and their commercial influence dominates the whole city. A row of warehouses extending for one long block along the coast of the canal is owned by one rich Chinese. The city is also the centre of the coasting steamship services and is connected with Borneo, Celebes, New Guinea, Singapore, and Australia. According to the report of 1914, the total tonnage of the steamers calling at this port reached 180,000 tons. The important export articles are sugar, coffee, tobacco, and coco-nuts. The surrounding region produces, besides these, rice, indigo, hides, and nests of sea-swallows.

The city is divided into two sections, the European district and the business quarter. Generally speaking, the European district lies along the western coast, connected by five bridges with the

Chinese and native district that lies on the eastern coast, but this distinction is not such a sharp one as in Batavia and Semarang, for in many places stores and shops are mixed up with residences of Europeans, Chinese, and natives. The first impression a visitor receives in this city is the greatness of the Chinese and native district. The European influence is recognized only in a few residences and a few scattered buildings, such as the arsenal, barracks, navy yard, etc. From the point of view of the visitor it is not an attractive city. Besides, it is not a healthy place; the effect of its hot and close weather is marked on the yellow and enervated faces of its inhabitants. It lacks good drinking-water and enjoys no refreshing breeze. Added to all this, mosquitoes and red ants are especially numerous, and so pestering are they that most Europeans, whatever may be the material advantages of the place, will have no desire to live here permanently. Coffee alone thrives very well and its quality is excellent.

Plan of Sight-seeing Tour: To get a general impression of the city, start from the hotel district and go eastward along Simpang Road, across Goebeng Bridge (Pl. D 9), to the suburb. After running through the suburban village, drive back to Goebeng sluice (Pl. D 9), and then turn W. from Kajoen to the European district. From there come out to Kaliasin and thence follow the city tramway, via Toendjoengan and Aloon Aloon, to Wilhelmina Tower (Pl. B 1). On the return trip, pass through the business district, especially its Chinese quarter, and, coming out at the Red Bridge (Pl. C 6), drive thence directly to the hotel. Important sights of interest in this tour are:

Genteng, Simpang, and Goebeng Quarters. These are cool, shady spots on the western coast of Kali Brantas, in the southern part of the city. The city tramway runs past Toendjoengan, Kaliasin, and Kepoetran; but, if one goes southward along Toendjoengan, one will see Oranje Hotel (Pl. 11, C 8) on the left (opposite which is a photographic studio, called Kurkdjian (Pl. 10, C 8), where one can find all sorts of pictures of Java), and then come to the corner of Toendjoengan, Embong Melang, and Kaliasin, where there is a beautiful club building, called 'De Club.' Near it are Hotel Wijnveld (Pl. C 8), Hotel Sarkies (Pl. 12, C 8), and some restaurants. In the cool of the evening the place is thronged with people. On Simpang Road, which runs eastward from here, are the Hotel Simpang (Pl. 13, C 8), Mansion of the Resident, and the Military Hospital (Pl. 17, D 9). Goebeng quarter, on the bank of the river, is occupied by Europeans. Its streets are neatly arranged and shaded by thick foliage trees, through the branches of which appear flat, red-brick houses, in pleasing harmony with the surrounding green. As one crosses Goebeng Bridge at the eastern end of Simpang Lane, one is already in the suburb of Goebeng, where a road leads to Goebeng Station. At the head of the bridge is Goebeng sluice. This sluice was constructed in order to divert the water of the Brantas to a branch stream, called the Porong, and constitutes a great engineering feat.

Places of Interest:—***City Garden*** (Pl. B C 6, 7). Going from Soerabaja (Kotta) Station past a bridge, one soon comes to a place where two wide roads cross. Near it is a park called Stadstuin. It is not a big park, but a band concert is given in it twice a week. By the open ground at the end of the park are the neat buildings of Grimm Restaurant and Café-restaurant Hellendoorn. N. of the park is the secondary school, 'Hoogere Burger School,' and the open ground W. of this building is Aloon Aloon, where stands a beautiful Mohammedan mosque.

Büttzingslöwen Place (Pl. B 7). Proceeding southward from

the City Garden past Aloon Aloon, one comes to another spacious ground, where stands a pointed tower, 'the Needle,' a monument dedicated to Von Büllzingslöwen, a red-cross soldier who distinguished himself in the battle of Atjeh.

The Barracks (Pl. B C 6). One is near the Aloon Aloon, and the other is on the N. W. side of Societeitstraat.

Wilhelmina Tower (Pl. B 1). This is a wooden tower standing in a small park at the mouth of the Kali Mas. For a trifling admission fee, one is allowed to climb up its precipitous stairway to the top of the tower, from which a good view of the sea can be obtained. Near it is a navy club, 'Modderlust.'

Fort Prins Hendrik (Pl. C 4). A large old fortress to the N. of the city. It is not used at present.

Navy Yard (Pl. C 2). It is situated on the eastern bank of the mouth of the Kali Mas. Its entrance is protected by forts. There is a dry dock, where several hundred Javanese are at work under the direction of European officers. It is not, however, open to the general public.

The Mouth of the Kali Mas. The lower stream of the Brantas is called the Kali Mas, or the River of Soerabaja. The term *Kali Mas* means 'river of gold,' an ironical name given to it because it is really a river of yellow mud. However, it runs through the centre of the city, giving it excellent transportation facilities, except at its mouth, which is shallow and does not allow large steamers to approach close to it. In the season of sugar-export, many native boats, decorated at both prow and stern and manned by native sailors dressed like pirates, are found assembled at the mouth. Visitors arriving at this city by steamer land here, and, as they follow the straight road running along the canal that forms the mouth of this river, they will see on the left side some fine large buildings belonging to the dock, and also some residences. As one proceeds farther up, one will observe a group of low, unattractive terrace-houses, arranged in the most disorderly manner possible. They are lodging houses for sailors and some little stores selling provisions and other things to them. Higher up past this terrace is a row of warehouses. On the river are seen many boats.

Fish Pond. This faces Fort Prins Hendrik and occupies the whole western bank of the canal that leads to the mouth of the Kali Mas. The trough runs confusedly like a labyrinth.

The 'Pasar Getap' Market (Pl. 5, C 6). It is situated in a small open space near Red Bridge in the centre of the city. It is covered with awnings. Besides fresh vegetables and fruits, all sorts of daily provisions, furniture, clothes, and second-hand stuff, are bought and sold here, and it presents an exceedingly busy scene. Going northward past this market, one comes to a place crowded with Chinese shops and exhibiting a busy scene of vehicular traffic.

'Djambatan Mèrah' or Red Bridge (Pl. C 6). This is a wide bridge connecting Handel St. with Heeren St. The region about this bridge is the commercial centre of the city. The bridge and the

neighbouring roads are crowded with motor-cars, sados, *kosongs* (two-pony cabs), bullock carts with large wheels (five or six feet in diameter), and hand-cars pulled by coolies, while between them trudge many coolies bearing over their shoulders *pikolans*, (bent carrying-poles) from the ends of which hang heavy weights. The river is also crowded with boats packed full of freight, while rowing boats and canoes pass in and out between them. Chinese, Javanese, Europeans, Arabians, sailors, soldiers, in short, all sorts and conditions of people, are seen walking briskly, each concerned with his own particular business. On the wharf of the western coast, called Willem's Quay, are seen all kinds of freight piled up like mountains—a testimony to its great foreign trade. The important buildings in this vicinity are the Resident's office, telephone office, arsenal entrepôt, Rotterdam Lloyd, Ned. Ind. Handelsbank, Colonial Bank, Pacific Mail Steamship Co., etc.

Places of Interest in the Vicinity.

Grisee. This is a little town on the coast, N. E. of Soerabaja reached by the steam-tram via Soemari (40 km., about 1½ hrs.' ride). It can be reached more conveniently by a small steam-boat, in about one hour, while at the same time one enjoys the beautiful scenery of the coast. There are also carriage and motor-car facilities.

The sight-seeing of the town can be done by trap (60 cents an hour). There is the tomb of Maulana Malik Ibrahim, the first Mohammedan priest in Java. On its face is a copper plate with an inscription in Arabic.

Maulana Malik Ibrahim died in 1419, when no Javanese could possibly have understood Arabic; therefore this plate must have been made in Arabia and sent from there to this place.

About four miles from Grisee is Giri. It is situated at an elevation of 122 metres above the sea-level and commands a wide view of the surrounding plain. It contains a Mohammedan mosque and near the mosque is the tomb of Soenan Giri. On application to its guard, visitors will be shown its sacred kris, 'Soero angoen angoen.'

About five miles from Grisee is Soetji, where there are saltpetre caves. In the caves edible swallows' nests are found in great quantities. Some of the old houses of Grisee are deliberately left vacant to induce swallows to make nests in them, for more can be made out of these nests than from the rental.

Visitors who wish to see the factories of native art-industries, such as the manufacturing of brass wares and wooden trunks, and the weaving of 'tjindèn' (coloured cloth with a snake-skin pattern) should apply to the assistant resident (his residence and office are on the coast), or to the native regent, or to the native *patih*.

The Island of Madoera. Visitors wishing to go there should take a steam-boat from the wharf near the old fortress Prins Hendrik; fare: 50 cents first class and 25 cents second class. The boat lands one at Kamal, where there is an hotel called 'Nieuw Scheveningen.'

Route XXX. Boroboedoer and Dieng Plateau.

In this route several tourist points along the line of the Dutch Indian Company, which runs from Djokjakarta to Semarang, are described. The length of the line is 157 km., including 73 km. from Semarang to Willem I. (broad gauge), 84 km. from Djokja to Parakan, and 28 km. from Setjan to Willem I. (both narrow gauge).

Boroboedoer and Mendoet.

Those who want to visit the Buddhistic remains of Boroboedoer should take train or automobile from Djokja. From Djokja to Parakan (84 km.) there is a tramway, and if a passenger applies to the conductor, a carriage will be waiting for him at Moentilan, where he has to alight. (The carriage fare from there to Boroboedoer and return is about *fl.* 6.) The distance between Djokja and Moentilan is 29 km., and there are six trains a day, one of which is a fast one. The time required is 1½ hrs., and from Moentilan to Boroboedoer it will take about one hour, so that the visit to Boroboedoer, including that to the Buddhistic remains of Mendoet, can be accomplished in half a day. However, those who want to see the glorious view of the sunrise at Boroboedoer should leave Djokja after luncheon and stop overnight at Hotel Boroboedoer on the hill. Since the hotel is not a very large one and may be crowded, the prospective visitor would do well to wire to it beforehand.

Those who wish to save time should take an automobile, which will not only cover the whole distance in an hour, but afford a good view of the surrounding regions. An automobile can be secured by applying to the hotel; the fare is about *fl.* 25.

From Djokja the route leads through such villages as Mlati, Klegoeng, and Salam, and across several branch streams of the Progo. On both sides of the river stretch fertile fields of sugar, rice, tobacco, indigo, etc. The road for both pedestrians and vehicles runs through archways roofed with red tiles. During the dry season these archways afford good resting-places, protected from the heat of the sun, and in the rainy season they furnish a convenient refuge from the passing showers. There are also many markets along the road, where mangos, mangosteens, breadfruit, durian, rambutang, and other tropical fruits are bought and sold, besides various cereals, drapery, and dried maize husks used for cigarette paper. Frequently natives are seen sitting on mats and eating with their fingers rice and vegetables laid on palm-leaves. The road runs almost parallel with the railway, and on the N. rise the active volcano, Merapi, and Mt. Merbaboe, while on the left the low, limy hill of Menoreh stretches to the foot of the volcanic mountain, Soembing. Near the Moentilan Station is a sugar-factory, and in this neighbourhood are also seen many places where tobacco leaves are spread out to dry. The entire region has excellent irrigation facilities and produces bountiful crops of rice, tobacco, and sugar. Potatoes are also planted in the rice-fields, after the rice has been harvested.

Three miles N. of Moentilan the road reaches Kalangan, from where it turns towards the S. W., and, running along the Elo for about four miles, it reaches Mendoet, a little village situated on the left bank of the Elo. There is a Roman Catholic church here, engaged in the education of native children.

(A) ***Tjandi Mendoet.*** This is a pagoda, 70 ft. high and 45 ft. square at the base. It was built probably later than the monument of Boroboedoer. Contrary to the general custom of all Bud-

Tjandi Boroboedoer.

dhistic temples, which face towards the E., this pagoda is built facing the N. W. Buried among bushes, it had long been neglected, until in 1835 it was discovered by the Dutch Resident, Hartman, and in 1897 it was brought to its present state of repair. The most interesting objects for the visitor are three stone statues. They are set in a dark, grey, half-ruined hall. The middle one is larger than the other two and is executed with admirable skill. It is very likely an image of Buddha. Though Buddha is generally represented in a kneeling or standing posture, this one is sitting on a stool, with both hands held as in prayer. The posture itself is remarkable enough, but more remarkable still is its expression, which is a superb symbol of the gentle and all-loving character of Buddha. The two side statues are smaller, and it is difficult to see what they represent. Some hold that both represent the Buddhisattvas, and others think that they are meant to be the statues of a certain pious king or a certain virtuous woman. However that may be, on looking closely the visitor will observe that the right one stands on a pedestal decorated with carvings of Nâga, lions, elephants, etc., and has on its head a hood such as is worn by a monk. On the crest of its crown is carved a miniature image of Buddha. Judging from these facts, it seems to represent a certain monk. The left one is different. It has no hood: instead it wears the three-stringed *upavita*, which fact proves that it does not represent a monk. Some natives think that the middle one is not Buddha, but Prince Dewa Kosoumi, and that the two side ones represent his wife and daughter. There is a romantic tale about this, which briefly runs as follows:

Once there was a prince, called Dewa Kosoumi, who had his beloved two-year old daughter stolen away from him by a certain rascal. The prince mourned deeply and started to search for her all over the country. Twelve years rolled away, but no tidings came about the lost maiden. Meanwhile, the prince had almost ceased to think of her, and one day he saw and fell in love with a beautiful girl. He married her, and in due course a baby was born. The rascal who had kidnapped his former child then appeared one day and told the prince that his wife was none other than the daughter whom he had lost so many years ago. The prince was overwhelmed with shame and remorse and sought to atone for this unconscious sin at any cost. A monk was consulted, and he told him that the only way of salvation was to shut himself up with his wife and baby in one room, and, if he could build a temple at Boroboedoer in ten days, his sin would be forgiven at once. Thereupon the prince summoned all the architects of the country and began to build the temple in a great hurry. It was done; the great monument, with a long gallery and hundreds of images of Buddha, was completed within the prescribed period of time. But alas! one image was missing; one image out of several hundreds! For the third time the prince was struck with sorrow and regret, but it was too late. With his wife and daughter he was forthwith turned to stone by the anger of heaven, and there they are, according to the legend, still preserved in this temple.

(B) ***Tjandi Pawon.*** Leaving Mendoet and crossing the iron bridge of the Elo and also the Progo and going westward for about a mile, one enters the village of Brajonolon. From there a canarian avenue leads to the hill of Boroboedoer. Turning to the left from this road, one comes to a small pagoda called Pawon. It was once in ruins, but has been rebuilt lately. Pawon means 'kitchen', which name was used probably because, by the side of the main temple of

Boroboedoer, it looks exactly like a kitchen. This pagoda once stood in the shade of a tall wild cotton-tree, which no doubt attracted the attention of the wayfarer. But now the tree is half rotten, and the pagoda itself is nothing but a grey, half-ruined structure. A small stairway leads up to a square room through a little vestibule decorated with carvings of Nâga. There is no statue in the room, but two niches on the side walls look as though they once held images of Buddha. The outer wall is decorated with carvings, but they are of no special value.

(C) ***Tjandi Boroboedoer.*** Leaving Tjandi Pawon and going through the canarian avenue, one comes to Tjandi Boroboedoer at the end of the avenue. The name means 'shrine of the many Buddhas.' It is a majestic edifice and stands there as the objective record of the once great influence of Buddhism in Java. Though in magnitude it cannot compare with such great Buddhistic monuments as Alara and Ajunta of India, and Angkor of Cambodia, yet in the beautiful symmetry of its whole structure, this monument is superior to any of them. Unfortunately the decoration of its tower and walls was left unfinished. This was because the monument was hardly completed, before the influence of Buddhism began to decline. One can easily imagine what an enormous expenditure of time and money must have been required to build a monument like this.

The building of this temple began probably in the 9th century, when King Asoka was distributing the supposed remains of Buddha (Sariki of Buddha) to all countries as a means of propagandism. A part of these remains was brought here, for Boroboedoer had been the centre of Buddhist influence in Java ever since 603, when the Indian prince, Guzerat, accompanied by five thousand Buddhists, came to Middle Java to settle. Judging from the bas-reliefs of the wall of the temple, it must have been designed by Mahayanists, the most influential sect at that time. In the 16th century, when Buddhism was supplanted by Mohammedanism, the Buddhist believers buried the whole monument under earth, in order to save it from destruction at the hands of the barbarous fanatics. During the time when England occupied Java, Sir Stamford Raffles had it excavated, the work being accomplished in less than two months. Since then the Dutch government has taken considerable care to preserve it. But the material being rough, fragile stone, it could not stand the destructive effect of long centuries, and the bas-reliefs of its walls are now greatly effaced.

On the top of the hill, at the N. W. corner, under the shade of canariums is the Hotel Boroboedoer. Visitors have to pay here an admission fee of 50 cents (including admission to Mendoet and Pawon). Even those who do not intend to stop overnight are expected to be good-hearted enough to buy Batik calico (there are tablecloths and window curtains especially designed for Europeans), pictures, and picture postcards. The temple is situated quite near the hotel.

Looked at from a distance, the temple appears like a little round hill, rather unattractive. But, as one approaches it nearer, it begins to look like a huge crown, and at still closer range it shows itself to be a rare work of art, a majestic conical structure, a round pyramid composed of many smaller towers, each of which is shaped like the whole, a gigantic crown. Its true value will be more evident, as the visitor examines the delicate bas-reliefs of its walls.

The height of the tower is 35 metres from the foundation and 47 metres from the surrounding ground. The Tjandi is built of porous trachyte or lava blocks, each cut about two feet long and one foot wide and piled up one upon another about the side of the gradually rising hill. No plaster or cement is used, and the interior of the stone layer is filled up with earth. The foundation is laid in two square grades, and on it stands a huge conical tower (which is in fact a polygon of thirty-six angles), consisting of five large and four somewhat smaller tiers of galleries. The upper three galleries are circular, and each is covered with round towers shaped like so many bells. At the centre of the topmost story is a foundation, 8.3 metres high, and on it stands a cylindrical tower, 3.6 metres high and 16½ metres in diameter. This is surmounted by a pointed tower, 9.3 metres high, but the upper part of it is now broken, leaving only it slower part. In the topmost tower is an unfinished image of Buddha, and it is said that here were once stored the remains of priests and nobles. Under the pedestal of the Buddha image is a large hole, which probably once led to the lower story. Each of the round towers (seventy-two in all) of the upper three galleries is five feet high and has latticed windows (with oblique holes through which the interior can be viewed from outside), and within each tower is an image of Buddha, seated on a lotus-flower pedestal. All the figures are similar, except in the position of the hands, according to which they are placed in one or other of the four classes of virtue,—receiving (that of the eastern side), thinking (the western side), teaching (the southern side), and promising (the northern side). It was believed that anyone who could touch any of these images would have good fortune. The lower five galleries are enclosed by double walls, inner and outer. The visitor walks along the gallery between the two walls. The gallery is seven feet wide, and the wall is about five feet thick. The inner wall of the first gallery (or story) makes the outer wall of the second gallery, and so on. Both inner and outer walls are decorated with beautiful bas-reliefs but those of the inner are particularly valuable. The total number of the bas-reliefs is 1,504, and, if extended in a straight line, they would stretch for a distance of three miles. Of these about 988 are in a good state of preservation, and they represent either Buddha, or nobles, or birds and other animals, or trees, or flowers, all intended to symbolize the virtue of Buddha. In both design and execution they are remarkable works of art and admirably symbolize such virtues as self-control, honesty and purity, humanity, etc. The figures of men and women resemble Hindoos or Greeks, and hardly any look like Javanese. This fact proves that the temple was designed and built by Mahayanists. On the upper part of the wall are many arched niches. Their total number is 432, and in each is set a life-size image of Buddha. These niches appear like so many temples arranged in series, and the images all face outwards. In the middle of the tower, at each of its four sides, is a straight stairway, by which one can climb up to the topmost gallery.

The topmost gallery commands an extensive view of the surrounding country—the plain of Progo verdant with coconut palms and canariums, and beyond it the active volcano, Merapi. After walking through the labyrinth of gloomy galleries, one feels that, after all, Nature is infinitely greater and infinitely more beautiful than anything man can do. Those who have time to spare are strongly advised to stop here overnight to see the glorious view of both sunset and sunrise. As the shadows of evening creep around the hillside and over the plain, this great pagoda appears like a benevolent, ghostly figure, standing there as the symbol of eternal peace. And in the morning, when the sun suddenly lifts the veil of night and casts its first brilliant beams over the whole country, this pagoda shines like a huge golden crown, proclaiming the victory of light and righteousness to the waking world.

The Order of Inspection: Inspection should naturally begin from the first gallery. Though the visitor can enter and ascend from any side, yet in conformity with the Buddhist custom, he should begin from the E. and then turn to the S. W. and N. sides. This order is the order of the sun's course in the northern hemisphere, therefore the right order, and anyone who violates it will be considered ignorant and impious.

The bas-reliefs of the first gallery represent Buddha, a Nâga Prince floating on a rough sea, a monkey riding on the back of a buffalo, a monster, called Raxasa, worshipping the buffalo, and other interesting figures, all being symbolical representations of the history of Buddhism.

The bas-reliefs of the upper half of the inner wall of the second gallery (most of the inner walls are divided into two sections by a moulding work of vine pattern) represent the life of Buddha from conception to Nirvana, but the scene of his birth is missing. The lower part represents nobles in pious attitudes. The bas-reliefs of the other walls are a mythological representation of the transfiguration of Buddha.

The bas-reliefs of the third gallery represent one hundred and eighty scenes of Buddha's spiritual experiences. Those of the fourth gallery represent eighty scenes of the virtuous deeds of believers. In those of the fifth gallery there are, besides numerous images of Buddha, the figures of the two Sultans by whose help the temple was built. It is held by some that the scenes of the lowest gallery represent the world of passion and desire, and those of the upper ones become gradually spiritualized, until in the topmost tower this enlightening process reaches its highest form, that is formless and void, symbolized by the unfinished image of Buddha. It is also said that in the bas-relief of the wall that is still buried under the ground is represented the scene of hell. The most valuable bas-reliefs are those of the second gallery. A somewhat more detailed description of these is given below.

Mâya, the mother of Buddha, is shown reclining and waited on by two maids. One of them is massaging her, and the other is driving away flies

with a fan. A white elephant riding on a lotus flower comes descending from heaven, which is the dream of Māya and symbolizes the conception of Buddha.

Under the shade of a tree stands the mother, and by her side is the infant Buddha. The sign of his future career as the saviour of mankind is symbolically represented by his walking on the four zones and the zenith of heaven, seven steps on each. As he walks, petals of lotus flowers drop floating from heaven, and below on the ground buds open, one at each step.

Buddha is discharging an arrow from the big and strong bow, which is said to require the strength of one thousand men to pull, and the sound of which is believed to reach a distance of seven thousand miles. Buddha pulls it alone, and the arrow goes through the trunks of seven coco-palms. The famous beauty, Rashodara, admiring his strength, falls in love with him. Thereupon they marry.

Buddha is making an excursion to the four gates. One day, while he was yet a prince, accustomed to the luxury of court-life, he went out to the four gates. At the E. gate he saw a white-haired old man, at the S. gate a sick man, hovering betwixt life and death, at the W. gate a dead man, and finally at the N. gate he saw an ascetic. His heart was filled with compassion, and his intelligence was awakened to the vanity of the worldly life. That was the beginning of his career as the saviour of mankind.

Then he leaves the court and takes up the ascetic life. Here again his fruitful training is symbolized by the figure of his moving through the air riding on a lotus flower.

Next he goes to the famous ascetic, Alara, to receive his instruction; but the future Buddha was already so wise, that Alara had nothing to teach him. His attainment is symbolized by the figure of his sitting on a lotus-flower pedestal.

From there he goes to another ascetic, Udraka, who is unable to teach him anything. Thereupon, accompanied by his disciples he goes to Rajargriha, the capital of Magadha. Its king, Bimbisara, and his wife come to meet him. The king offers him one-half of his territory and asks him to stay. But disdaining the allurements of the worldly life, he departs therefrom.

Buddha, with five of his disciples, sits on the bank of a stream. He reveals to his disciples his discovery that true knowledge cannot be gained by asceticism, that asceticism is another form of evil. The disciples become indignant at this heresy of their master and leave him. The indignation of the disciples is admirably represented by the vibrating muscles of their arms.

Omniscient Buddha now sits under a fig-tree (which is called the tree of knowledge) on a pile of bushes and dispels all doubting thoughts, which are symbolized by attacking devils. The devils' weapons, as they fall on Buddha, turn to flower petals, and a halo shines about his head.

Then comes the Prince of Darkness, Mara, with his many pretty daughters, to tempt him.

The five disciples that had left him come back to worship him.

The scene of his last hour is lacking, but Nirvana, represented by the figure of Buddha sitting in meditation on a lotus-flower pedestal with both hands resting in his lap, is the symbol of his death. At the back of the figure stand two monks with pitchers in their hands, pouring water over him.

Magelang (47 km., in about 2½ hrs.) is the capital of the residency of Kedoe and has a population of 28,000. It is an important military station in Central Java. Being situated at an elevation of 380 metres, its air is cool and dry. Its streets are shaded by trees, and it has a large model prison. One may hire a carriage for a drive through the city through Unglaub's or Loze's hotel. To the N. W. of Western Road (a city street) rises Mt. Soembing, and on the S. of the city is Tidar Hill, which commands a fine view of the country, especially at sunset.

Dieng Plateau.

The plateau is 2,100 metres above the sea-level and has an area of 260 acres. It was once a crater, and on it stand several ruins of

temples, all built probably in the middle of the 9th century, and, therefore, at least more than a thousand years old. On the N. E. side it is surrounded by mountains. The air is cool, and in June and July the temperature sometimes drops at night to freezing point. In the greatness and sublimity of its scenery it is often compared to Yellowstone Park in North America, and tourists are coming here in increasing numbers year after year, while steps are being taken to perfect the various accommodations and equipments. Such an excellent combination of magnificence and sublimity in one place is rarely found in Java.

Visitors coming from Djokja should take the tramway direct to Parakan (84 km., in about 4½ hrs.), and those coming from the other direction, Semarang, should take the train to Willem I. (Ambarawa), and thence the steam-tram to Parakan, changing cars at Setjang. From Parakan one should ride in a trap to Ngadiredjo (5 m., fare *fl.* 1.50). From the latter place the road is hilly and has to be travelled on horseback. The distance is about 17 m. and on the way is Sendoro Pass, which is a hard path and has to be travelled on foot. Passing through Tambi and Kedjadjar, one comes to Dieng in about six or seven hours. Those who are not inclined to make this trip may choose the road, that leads from Parakan south-westward to Wonosobo. This road, though much longer, is wide and motor-cars can be driven on it as far as Wonosobo. (The car must be ordered beforehand to be sent from Wonosobo to Parakan.) The distance between the two is 20 m. and will require about 4½ hrs. by trap, and 1¼ hrs. by motor-car. The fare is *fl.* 10 by trap and *fl.* 25 by motor. At about two-thirds of the way is Kerteg, whence to Wonosobo the road is very good. The latter is a neat, quiet village, cool, and gay with flowers. It has an hotel—Hotel Marcks—and visitors may spend one or two days there quite pleasantly. From Wonosobo northward to Garoeng, the distance is 5 m. and can be travelled by trap (fare *fl.* 1.50, time ¾ hr.). From Garoeng to Dieng, the distance is about 10 m. and has to be travelled either on horseback or in a sedan-chair. It will take about four hours.

Dieng: Hotel Dieng, though not well equipped, is neat and cheap, *fl.* 4 per day. Besides this hotel, there is a government rest-house, provided with a stove. The rental is *fl.* 6 per day. The places of interest in the vicinity are:

a. Toog Bimo, the source of the River Serajoe.

b. Tjandi Djorowadi, a decayed temple not far from the hotel and called Soetowomo by the natives.

c. Mt. Prahoe. If the weather is fine, visitors may attempt to climb it. From its summit, about 2,600 metres high, can be obtained a good view of the Java Sea and the Indian Ocean.

d. Telaga Warna (Colour-Changing Lake) and Telaga Pangilan (Mirror Lake), situated to the S. of the hotel. Between the two stand two rocks bearing inscriptions executed in the 10th or 11th century. Farther S. is Lake Tjobong and near it is Simboengan, the highest village in Java, situated at an elevation of 2,100 metres.

e. Tjandi Ardjoeno and Tjandi Werkoedoro. Both are sites of groups of ruined temples, but the latter, which is sometimes also called Tjandi Bimo, has more ruins and is the best-preserved temple in the group. The plateau on which these ruins stand is 600 metres high, and its air is cool even in the daytime.

f. Kawah's Kidang, si Banteng, and si Gadjah. These are places noted for the rising of sulphurous vapour. White clouds of

sulphuretted hydrogen cover the ground, which cannot be safely approached without a guide.

g. Telaga Lerie and Telaga Merdodo. Both are pretty lakes, the former drawing its water from several streams, some cold and some hot. The hot streams appear white where they flow into the lake, and present a rare sight.

h. Pekareman. Here poisonous gas is exhaled, and visitors will see the carcases of many animals killed by it and lying on the ground. It is, therefore, called the Valley of Death.

i. Kawah Tjondro di Mocko, situated to the N. of the road that leads from Dieng to Batoer. Here there are wells from which rises sulphurous vapour. The surrounding scene is very interesting.

The above places of interest are mostly situated along the road that leads from Dieng to Batoer. The distance between the two points is only seven miles, but, if one makes a tour of all these places, it will extend to twelve or thirteen miles. At Batoer is a rest-house. If the tourist is going to cross Central Java, from here to Maos, he should take a trap from Batoer to Bandjarnegara (17 m., fare, *fl.* 14), and stop there overnight. Early next morning he should take the steam-tram to Maos. He will reach there in about four hours.

Mt. Merbaboe. It is 3,145 metres above the sea-level and is one of the finest health resorts in Central Java; it is very popular with tourists from Semarang and Djokja. Visitors should come by the railway of the Dutch Indian Company and alight at Grabak Merbaboe (67 km. from Djokja and 56 km. from Semarang, in about 4 hrs.). If one wires beforehand to its hotel (telegraphic address, Salatiga), either a horse or a sedan-chair will be waiting at the station on one's arrival. The fare is *fl.* 3. From the station to the hotel the distance is 7½ miles. For the first two miles the road is good and level, but the rest is hilly, and the entire trip will take about three hours. The hotel can also be reached from Salatiga (11 m.), or from Magelang by motor-car through the villages of Pakis and Kintelan (19 m.). It is situated on the plateau, surrounded by Mts. Merbaboe, Andong, and Telomojo, and has twenty-four rooms. It is well equipped and its food also is excellent.

Ambarawa: (Hotel Ambarawa.) Its station is called Willem I., 73 km. from Semarang and 84 km. from Djokja. The city is situated on the plain lying between Mts. Merbaboe and Oengaran and is noted for its fort, Willem I., which was built by the Dutch government as a protection against any hostile movement of the native rulers of Djokjakarta and Soerakarta. The sight-seeing round of the fort, the city, and a pretty little garrison place, Banjoe Biroe, by carriage will cost *fl.* 4. Though there is sometimes a strong S. W. wind, its climate is generally very healthy. In the vicinity is Toentang Fall. To go there, take train to Toentang (6 km.) and thence walk along Salatiga Road. The visitor had better take a guide with him.

Salatiga is a good health resort, with an hotel situated at an elevation of 575 metres above the sea level. It can be reached from Toentang by carriage (*fl.* 2). The road runs through plains and hills. Mts. Oengaran and Merbaboe rise above the surrounding country.

Route XXXI. Northern Coast Line.

(between Batavia and Soerabaja.)

General Remarks: Between Batavia and Soerabaja along the northern coast of the island, besides the two large ports of Cheribon and Semarang, there are Tegal, Pekalongan, and other smaller ports. These are connected with each other, not only by the busy line of coasting steamers, but also by the railway, with at least one fast through train daily and many local trains. The tourist may choose either means of communication as he likes.

(A) Steamship lines between Batavia and Soerabaja. The distance between the two cities by water is 384 m., and Semarang is situated about midway between them (188 m. from Batavia), and that distance can be travelled in one day. All the coast steamship services are controlled by the Royal Packet Navigation Company. They are as follows:

(1) Belawan Deli—Soerabaja (weekly), two days' voyage from Batavia to Soerabaja or *vice versa*, via Semarang.

(2) Belawan Deli—Semarang (once every other week), two days' voyage from Batavia to Semarang or *vice versa*, via Cheribon.

(3) Singapore—Menado Line (once every other week), two days' voyage from Batavia to Soerabaja direct or *vice versa*.

(4) Batavia—Koepang Line (once every other week), two days' voyage from Batavia to Soerabaja direct or *vice versa*.

Besides these, there are two more services, operated once every other week, between Batavia and Soerabaja, via Semarang or Cheribon. There are also the Java-Australian Line, operated by the same company once every four weeks, and two other services, each operated once every four weeks, and two other services, each operated once every other week, via Cheribon, Tegal, and Pekalongan. The last ones will require three days. The fare is *fl.* 16 (1st cl.) from Batavia to Cheribon, *fl.* 32 to Semarang, and *fl.* 46 to Soerabaja.

Sailing from Batavia, the passengers on board will be able to see volcanoes in the region of Preanger appearing between hazy clouds. Named in order from the E., they are Mt. Salak (2,211 metres), Mt. Gede (2,953), and Mt. Tangkoeban Prahoe (2,076).

Between Mt. Gede and Mt. Tangkoeban Prahoe may be seen the range of Mt. Krawang. After rounding Point Indramajoe, the ship travels far from the coast, so that nothing is visible on that side; but on the other side the Boompjes Islands appear,—first their lighthouse and then the islands themselves. In twelve hours' sailing, she will be off the coast of Cheribon. There are many hidden rocks along this part of the coast, and the ship dares not come close in. The voyage from Cheribon to Semarang requires another twelve hours. Tegal and Pekalongan are between the two.

Leaving Semarang and sailing towards Soerabaja, there come in sight first the ridge of Mt. Moeria (1,604) and then the beautiful peaks of Mt. Lasem (807). After that the coast becomes gradually lower, and tablelands with fantastic edges appear all along it. These tablelands were called 'as mesas de Tuban' by Portuguese sailors, and 'the coffins of Toeban' by Dutch sailors. The appellations are fitting ones. In the meantime the outlines of Madoera Island have begun to show themselves. They, too, are a series of low hills and high plateaux, broken here and there by gaps, the edges of which appear like stairways. 'The coffins of Toeban' form a part of the chalky

SEMARANG
Scale 1:40,000
English Mile
Kilometer
Panggoeng
Babadan
Barat
FORTPRINCE OF ORANJE
Pendrikan
Ngampoe
Baton
Seteran
Paterongan
Randoe Sari
Melaten Koelon
Oedoeldistrict Djombleng
Pangkalan
Pandean
Gov. Native School
Gov. School
Hotel Centrum
Hotel Janson
Protestant Church
Mc. Neill & Co
Royal Packet Co
De Javasche Bank
House of the Resident
Chartered Bank of India Australia & China
Telephone Office
Military Hospital
Postand Telegraph Office
Stadstuin
Hotel du Pavillon
Hotel des Indes
House of the Regent
G. Tegalamba
G. Boloe
Hotel Tjandi
Hotel Stamat Datang
Hotel Insulinde
Hotel Nieuw Holland
Railway Station
Petroleum Co.
European Cemetery
R. Cath. Church
Infantry Camp
Officers Camp
Chinese Church
Shooting Ground
Sarekat Hidjo Club
Ind. Hospital
Djombleng Station
Djombleng Wetan
Djombleng Koelon
Tjandi
Kaligawe
Kaligawe Canal
Mataram Canal
Semarang Station
Tandjong Mas
Semarang Station
Pandrikan Station
Road to the Shore
Along the Shore Road
Jenggot Road
Mataram Road
Hoogen Road
Lamper Hoogen Road
Jenggot Kolarweg
Mr. Cochius Road
Pangapon Road
Jernatan Road
Hoogen Straat
Mataram Straat
Kaligawe Straat
Mr. Tjan Weg
Djombleng Weg
Kaligawe Weg
Kaligawe Straat
Kaligawe Canal
Mataram Canal
Semarang Station
Tandjong Mas
Semarang Station
Pandrikan Station
Road to the Shore
Along the Shore Road
Jenggot Road
Mataram Road
Hoogen Road
Lamper Hoogen Road
Jenggot Kolarweg
Mr. Cochius Road
Pangapon Road
Jernatan Road
Hoogen Straat
Mataram Straat
Kaligawe Straat
Mr. Tjan Weg
Djombleng Weg
Kaligawe Weg
REFERENCE NUMBER
1 Hotel Centrum E 4
2 Hotel Janson D 4
3 Vesmid
4 Protestant Church
5 Mc. Neill & Co
6 Royal Packet Co
7 De Javasche Bank
8 House of the Resident
9 Chartered Bank of India Australia & China
10 Telephone Office
11 Military Hospital
12 Postand Telegraph Office
13 Stadstuin
14 Hotel du Pavillon
15 Hotel des Indes C 5
16 House of the Regent D 5

ridges of Mt. Rembang, but Madoera Island is just a series of tablelands. As the ship sails further E., Mt. Penanggoengan and Mt. Ardjoeno (3,343) appear away in the distance. Shortly after this, the ship passes the mouth of the River Solo, which pours its yellow, muddy stream far into the sea. Passing this, the lighthouse of Soerabaja next appears towards the S. E., and the ship soon enters the narrow straits of Madoera. At first both shores appear far off, but soon passengers will be having a close view of the verdant coast of Madoera Island and its many fishing villages projecting into the sea. About them appear the white sails of native *proas*, like sea-gulls floating on the waves. Sailing further E., the ship skirts the coast of Grisee, with its rows of red houses and picturesque hills at the back. In the season of the W. monsoon, many boats are seen gathered along it. As the steamer nears Soerabaja, the sea suddenly becomes a busy scene of commerce. Many steamers and smaller boats are seen anchored off the coast, but the city looks very insignificant, for nothing but the tops of a few buildings appear from the water. The ship will at last stop by the side of a white police boat. In front lies the Oedjong (pier), but passengers are conveyed to the shore by ferry boats.

(B) Railway line between Batavia and Soerabaja.

Along the railway route there are no important commercial ports, and fewer places of interest than along the inland route. Two or three places landward of Semarang are all that are worth seeing.

From Batavia to Cheribon (220 km., in about 4 hrs.) there run two fast trains daily, one in the morning and the other in the afternoon. The route is almost entirely level and runs past Krawang and Tjikampek (see P. 394) and then along the northern coast to Cheribon. On the way is Djatibarang (180 km. from Batavia, in 3½ hrs.), from where runs the steam-tram to Indramajoe, the capital of the regency of the same name. This city has a population of about 16,000 and is the seat of a Regent. Rice and sugar are transported from here to the coast through the canal.

Cheribon (or Tjiribon) is the capital of the residency of Cheribon. This port lies on both sides of the Tjiribon. *Tjiribon* means 'river of crayfish.' Behind the city is a volcano, called Tjiremai (3,076 metres), and further inland are other volcanoes. N. of Tjiremai is a fertile plain, devoted mostly to the cultivation of rice and sugar. About the foot of the mountain are raised tea, indigo, and coffee. From Mt. Sawal (1,763) is produced teak. In the coastal region, the fishing industry is prosperous. The coast is fringed by hidden rocks, and large boats always stay far off it. The city is the seat of the Resident and has a population of 23,500, of whom 3,000 are Chinese, 600 are Europeans, and 19,000 are natives. It is divided into European, Chinese, Arabian, and native quarters, and each presents its own characteristics. Europeans live mostly in the new section, called Tanakil. Though its climate is not very good, many Arabians and Malays make a pilgrimage to Cheribon to the tomb of Soesoehunan Gunang Djati, a great preacher of Islam in Java, and the founder of this city. His descendants still live here, supported by a pension from the Dutch government. There is a steam-tramway from here southward to Kadipaten (2½ hrs., four trams daily).

From Cheribon to Semarang the steam-tramway runs along the coast. The fast tram will take about seven hours. On the way are Tegal and Pekalongan, and from Tegal the tramway runs southward to Balapoelang (seven trams daily; 1⅓ hrs.).

Pekalongan is the capital of the residency of the same name and has a population of 40,000. The sarong produced in this region has a special design, adapted to the European taste. On the southern border of this residency is Mt. Slamet (3,432 metres). At its northern foot is a fertile plain, which produces sugar and coffee. The eastern forests produce teak. As a port Pekalongan is hardly worth mentioning, but for its export of sugar. In this particular respect, it is the next most important port to Cheribon on the northern coast.

Semarang.

Means of Access: 11½ hrs.' journey by the fast train from Batavia, and about 3½ hrs. (169 km.) from Djokja by the line of the Dutch Indian Railway Company. It can also be reached by the state railway from Solo (109 km., in about 2 hrs.).

The City Tramways. (1) Semarang Station (Pl. E 2) to Klein Boom (Pl. C 2), via Central Station (Pl. D E 4). (2) Central Station to Bandjirkanaal (Boeloe, Pl. A 5) in the S. W. of the city. (3) Central Station to Djomblang (Pl. E 9), via Oengaran Road in the eastern part of the city.

As to the motor-car and carriage facilities, the conditions are about the same as in Batavia. The carriage company, G. Rijtuigfabriek, is at Kerkstraat, and the motor-car company, H. W. Jonkhoff, is at Heerenstraat.

Hotels. Hotel du Pavillon (Pl. 14, D 4), Bodjong Road (the largest hotel in the city, *fl.* 7 per day); Hotel Jansen (Pl. 2, D 4), once called Heerenlogement, situated at the centre of the down town; Hotel Centrum (Pl. 1, E 4), situated also near the centre of the down town. Hotel Smabers, Hotel Pension, Hotel des Indes (Pl. 15, C 5), Bodjong Road. Besides these there are Hotel Pawang, Hotel Slier, etc. Two miles S. of the city, at Tjandi, is Hotel Tjandi (Pl. E 10).

Cafés and Restaurants: Maison Smabers & Co., Bodjong Road; Pension, Bodjong Road; Tan Sioe Lip (beer-hall), Bodjong Road.

Clubs: Societeit Harmonie (Pl. C 5), Bodjong Road; Stadstuin (Pl. 13, D 4), Aloon Aloon.

Post and Telegraph Office (Pl. 12, D 4), at the N. end of Bodjong Road, next to the City Hall.

Banks: De Javasche Bank (Pl. 7, D 4), Heerenstraat; Nederlandsche Handel Maatschappij, Westerwalstraat; Mc Neill & Co. (Pl. 5, D 4; Agents of Hongkong & Shanghai Banking Corporation), Oudstadhuisstraat; Chartered Bank of India, Australia, & China (Pl. 9, D 4), Westerwalstraat.

Important Mercantile Houses:

Photographers	
Hisgen & Co.	Bodjong.
N. van Wingen	Heerenstraat.

Provision Stores	
Handels-en Industrie Companie	Zeestraat
Jacobson van den Bery & Co.	Heerenstraat
Liebenschutz & Co.	Hoofdwachtstraat

Book Stores	
H.A. Benjamins	Heerenstraat.
A. Bisschop.	"
G C.T. van Dorp & Co.	Oudstandhuisstraat.

Dry Goods Stores	
H. Spiegel.	Heerenstraat.
Java Stores, Ltd.	Bodjong.
Zikel & Co.	Heerenstraat.

Steamship Companies' Agents: Burns, Philp & Co., booking-office for Burns Philp Line; Internationale Crediet-en & Handelsvereeniging 'Rotterdam,' agents for the Nederland Royal Mail Line; Mc. Neill & Co. (Pl. 5, D 4), agents for the P. & O. S. N. Co., The West Australian S. N. Co., The British India S.N. Co., The Ocean S.S. Co., and The Canadian Pacific Ocean Services S. S. Line; Royal Packet N. Co. (Pl. 6, D 4), booking-office for all lines connecting the different places in the Archipelago, the Java-Siam Line, and the Java-Australia Line; The Koloniale Bank, agents for the Messageries Maritimes S. S. Co.; The Ships' Agency, Ltd., agents for the Nederland Royal Mail Line, Java-China-Japan Line, Java Pacific Line, and Nippon Yusen Kaisha.

General Description of the City. The city of Semarang is situated on the bank of the Semarang, in 110°25′ E. long. and 6°50′ S. lat. It is one of the three great ports in Java, the others being Batavia and Soerabaja. Its population is 961,660, of whom 5,126 are Europeans, 76,413 are natives, 13,636 are Chinese, 698 are Arabians, and 787 are other Asiatics. The port itself is not good naturally and is, moreover, poorly equipped. Its entrance is shallow—only 7½ ft. deep at full tide, and 5½ ft. at ebb tide—so that steamers have to anchor about one mile off the coast, and passengers are taken ashore by a launch (*fl.* 2), or by Malay boats, *tambangans*, (*fl.* 1.). In the season when the wind blows in the north-western direction, landing is a difficult matter. At present, the improvement of the harbour at a cost of *fl.* 2,500,000 is being undertaken. The scene of the warehouses along the canal, with numerous craft packed full of freight assembled below them, is a sight worthy of attention. At the entrance stand a big lighthouse (Pl. C 2) and a tall tower, from which notice of the entrance of all steamers is despatched to the important mercantile houses in the city. The city is divided into two sections, new and old. The old section lies near the coast and is dirty and crowded; until 1824 it was surrounded by forts and moats. The new section consists of the two districts of Bodjong and Pontjol and is situated on slightly elevated ground. It is the European district, and, like all other European districts, it has wide streets shaded with trees.

Bodjong Road, which traverses the entire section, is an avenue of tamarinds, and at the northern end of it stands the Hotel du Pavillon (Pl. 14, D 4). E. of it is a triangular meadow, which is now converted into a park. Here a concert is given once a week. To the S. W. of this park is a Mohammedan mosque, and to the N. are military barracks. Further N. of these stands the solemn Government House building, erected in 1854, and housing the offices of the Resident, the Court of Justice, and other offices. Adjoining this building on the S. is the Post and Telegraph Office, (Pl. 12, D 4) built in 1904. Near it is a club building, and to the N. is a military hospital (Pl. 11, D 4).

At the point where the road turns to the right at the southern end of the Bodjong Road is the Residency, and near it are a govern-

ment school for girls and also a native school. Newly-planted gardens are seen here and there in this vicinity. The road, that turns to the left at the southern end of Bodjong Road, is a pretty lane and leads via the Chinese *kampong* (village), cemetery, gardens, and fields to the centre of Djomblang Road. A walk or drive along this lane in the evening is especially pleasant.

W. of Bodjong Road, in a suburb of the city, is the ruin of Fort Prins van Oranje (Pl. B C 4), and W. of this is a large canal. At Limongan, the southern end of this canal, is a large sluice. This region is low and is often badly flooded in the rainy season. The canal was constructed to remedy this situation, which it did to a certain extent. Recently another canal was built in the eastern part, in order to drain the water of the Semarang from both the eastern and the western canals. These two canals not only relieved the city from the danger of floods, but reduced the number of malaria patients each year to a considerable extent.

From Semarang (N.I.S.) Station (Pl. E 2), Oengarang Road leads southward to Djomblang through the eastern part of the city. The steam-tram runs on this road, and on its western side is a Chinese quarter (Pl. D 5). Since a certain Chinese envoy came here about three hundred years ago, with the special object of opening up the country for Chinese immigrants, the city has been the headquarters of the Chinese commercial and industrial activities in the Dutch East Indies. There are many rich Chinese merchants in the city (Chien-yüan is one of them), and the residence of the Chinese headman is large and elegant and is open to the inspection of the general public. Two miles S. of the city, at an elevation of 90 metres is a fine residential district, called Tjandi. It can be reached from Djomblang by carriage. Hotel Tjandi (Pl. E 10) is situated here, commanding a fine view of the city lying below across the valley, and also of the bay stretching further beyond. The most important industry of the city is sugar-manufacturing, and there are several sugar-factories, besides oil-factories, lumber-mills, ice-factories, and distilleries.

The tonnage of the steamers calling at the port is from 1,600,000 to 1,800,000 tons. The chief articles of export are rice, sugar, coffee, tapioca, copra, lumber, and leather.

The export value of sugar alone reaches *fl.* 30,000,000 annually.

Places of Interest in the Vicinity.

Demak (26 km. by steam-tram, reached in about 1¼ hrs.). Though at present a small, quiet village with a population of 5,250, in the 15th and 16th centuries it was a famous sacred place, called 'the Mecca of Java.' In 1468 a Mohammedan preacher, named Raden Patah, built a temple here, and it is told that one of the four pillars that stand in the middle of the main hall was completed in a single night by a certain miraculous power. When the temple was rebuilt in 1845, this part of the original building was preserved without any modification.

Soerakarta (Solo): 109 km. from Semarang, reached in about 2 hrs. by the fast train. While the steamer is stopping at the port, passengers may make a trip to this old capital of Java. For further particulars see P. 429.

From Semarang the line of the Dutch Indian Railway Company runs southward to Kedoeng Djati, from where it branches into two, one running in the eastern direction to Goendih and Solo, and the other to Ambarawa (Willem I), from which place there is a steam-tramway to Magelang and Djokjakarta. Those who have still more time to spare may travel further on to Mt. Merbaboe, and still further to Dieng Plateau and Boroboedoer (see P. 440).

Semarang to Soerabaja.

There are two routes between these two cities:—

(1) From Semarang to Solo (109 km., in 2½ hrs.) by N.I.S. Line, and from Solo to Soerabaja (253 km., in 4¾ hrs.) by the state railway. The total distance is 362 km., and the whole trip requires about seven hours.

(2) From Semarang to Soerabaja direct, by the N.I.S. Line. The distance is 297 km. and can be covered in 7½ hrs. by the fast train. The following is a brief description of this route.

The line from Semarang to Goendih (67 km.) is a part of the broad gauge of the N.I.S., the first railway built in Java. But the line from Goendih eastward to Soerabaja is a narrow gauge line (steam-tram). The train leaving Semarang will arrive at Kedoeng Djati (36 km.) in half an hour. Kedoeng Djati is situated on the left bank of the Demak and is the starting-point of the branch line that runs to Ambarawa (Willem I. Station). Those going to Dieng Plateau and Boroboedoer have to change at this station. From Kedoeng Djati to Goendih (31 km.) the road is hilly. From Goendih the train runs northward and arrives at Bolo (14 km.), where it turns to the left and runs in the eastern direction to Kradenan (104 km. from Semarang).

Between Goendih and Bolo another line runs parallel with this. That is a branch of the Semarang-Joana Steam-tramway, which runs 6 km. N. of Bolo to Poerwodadi, where it is connected with the Demak-Blora Line. From Kradenan, on the line we are now describing, a branch line runs northward and joins the Demak-Blora Line for a distance of 12 km. to Wirosari. The country surrounding Kradenan is near the south-eastern border of the residency of Semarang, and on each side of the line is a hilly stretch of forests which produce teak. Passengers will observe many young plants of this tree planted here and there on the hilly ground along the route, and in the plain corn is raised extensively. In the meantime the train arrives at the Randoeblatoeng Station (133 km.), a little station in the south-western part of the residency of Rembang. Running E. along the Bengawan or Solo River, the train next arrives at Tjepoe (156 km.). From here a branch line runs northward, via Blora,* to Rembang,† the capital of the residency of the same name (73 km., in about 4 hrs.; four trains daily). This branch line is operated by the Semarang-Joana Steam-tram Co.

†Rembang is a port on the northern coast of Java, having a population of 13,000. Once it was noted for its shipbuilding industry, but at present its main industries are fishing, manufacturing of calico, and articles made of peacock feathers.

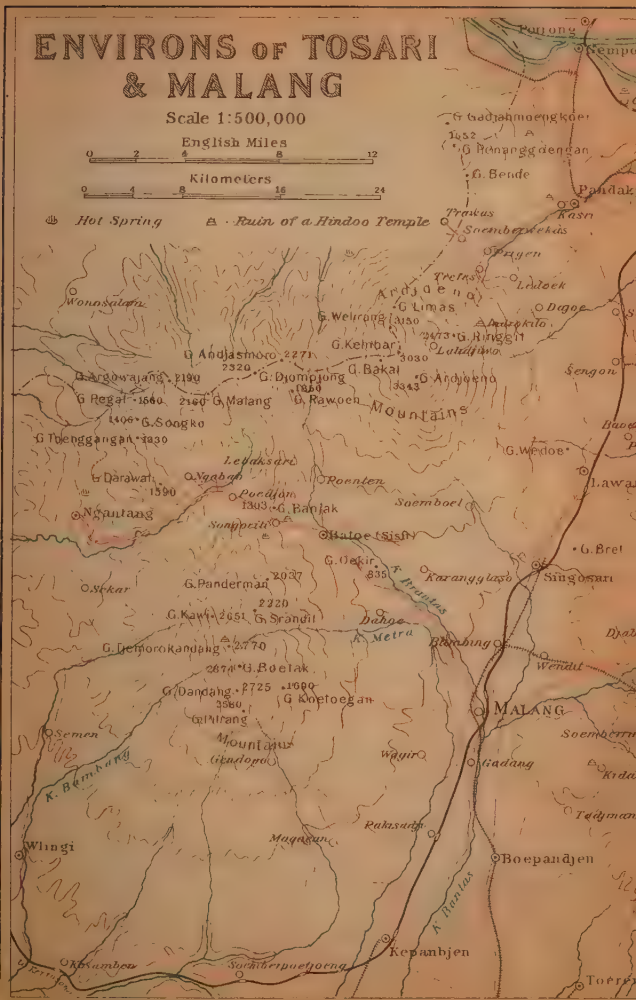
The line of the Semarang-Joana Steam-tram Co. (111 km., in 4 to 5½ hrs.) extends further eastward to Pamotan (132 km., in 6½ hrs.).

*Blora has a population of 12,000 and is noted as the place where teak is gathered and distributed. It is conveniently situated for this, for it is at the junction point of the three steam-tramways to Semarang, Rembang, and Tjepoe.

The train crosses the Solo to the E. of Tjepoe and, running eastward along the right bank of the river for about one hour, arrives at Bodjonegoro (193 km., population 12,000). It is situated at the confluence of the R. Kening with the Solo. Being thus provided with transportation facilities both by land and water, it forms an entrepôt for teak. The region is also noted for its production of kerosene oil.

Running farther eastward for about an hour, the train arrives at Babat (228 km.), on the border of the residency of Soerabaja. From here a branch line (steam-tram) of the state railway runs to Djombang (about 4 hrs., four trains daily). From here on, the stream of the Solo is no longer seen; instead of it a wide plain stretches on all sides. Running past Lamongan (256 km.) and Soemari (272 km.),—from here a branch line runs to Grisee, see P. 439—the train arrives at last at Soerabaja.

A Scene of Rice Harvest.


ENVIRONS OF TOSARI & MALANG
Scale 1:500,000
English Miles
0 2 4 8 12
Kilometers
0 4 8 16 24
Hot Spring
Ruin of a Hindoo Temple
Porong
G. Gadjahmoengkoer
G. Penanggdengan
G. Bende
Pandak
Kasri
Trawas
Soemberwekas
Pryen
Trefes
Ledoek
Ardjoeno
G. Limas
Dagoe
Wonosalam
G. Welirang
3150
G. Ringgit
G. Kembar
3030
G. Andjasmoro
2271
2320
G. Bakal
G. Ardjoeno
3343
Sengon
G. Argowajang
2190
G. Djompjong
1860
G. Pegal
1560
2160
G. Malang
G. Rawoen
Mountains
1406
G. Songko
G. Thenggangan
1330
G. Wedoe
Lebaksari
G. Darawati
1590
Ngabab
Poenten
Poedjon
1303
G. Banjak
Soemboel
Ngantang
Songoriti
Batoe (Sisir)
G. Bret
G. Oekir
835
Karangglaso
Singosari
Sekar
G. Panderman
2037
2220
G. Kawi
2651
G. Srandil
Dahoe
K. Metra
Blimbing
G. Djemorokandang
2770
2874
G. Boetak
Wendit
G. Dandang
2725
1690
G. Koetoegan
3580
G. Pitrang
MALANG
Semen
Mountains
Gendogo
Wagir
Gadang
K. Bambang
Rakisadji
Magaean
Wlingi
Boepandjen
K. Bantas
Kepanbjen
Kesamben
Soemberpoetjoeng

THE TENGGER CRATER
Scale 1:300,000
Kertasari
Pruewoeng
Sedaeng
Topari (1777)
Ledok
Wonokitri
G. Baroektinting
G. Argawoeian
Podokojo (2000)
G. Penandjaan
Ngadiwono (1960)
Djetak
Ngadisari
Wonokerto
Poetoes
Moengal Pass
SAND SEA
G. Batok 2142
G. Bromo 2380
SAND SEA
G. Poendakjemboe
G. Widodaren
SAND SEA
Idjo Pass
ROEDJAK
Ngadas (2100)
G. Iger Iger
BANGIL
PASOEROEAN
Redjoso
Kedjajan
Gondang Wetan
Wonoredjo
Winongan
Bajeman
Banjoebiroe
Pasrepan
Poerwosari
Loembang
Poespo
Ngepoeh
Loembangkoening
Petalan
Gerbo
Djandjangwoeloeng
G. Koemba
Palangsari
Ramboetmojo
Tosari
G. Koekoesan 1340
K. Bades
Soekopoero
Bodo
Adipoero
Vetts Hill
Wonokitri
G. Argawoeian
2725
Nongkodjadjar
Ngadiwono
Klelak Pass
Ngadiredjo
Ngadisari
Soember
G. Lawangan 1450
2295
G. Ketjir
2390 G. Bromo
2628 G. Poendakjemboe
Idjo Pass
2374
Ngadas
Mountains
1870
G. Kertapati
Toempang
2819
R. Pont
G. Ajek Ajek
R. Regoelo
R. Diongo
K. Amproeng
G. koetoegan 2882
Goetjialit
G. Koekoesan 2790
R. Koembala
3020
G. Djembangan
G. Kepala
3036
Retjopodo
Sendoero
Wadjak
G. Mahameroe 3676
Djoenggringseloko
G. Smeroe
Pasroedjambe
Penanggal

Route XXXII. Eastern Part of Java.

Mt. Keloet, Mt. Kawi, Ardjoeno Mountains.

General Remarks: This route in the beauty of its scenery and general interest matches that from Soerabaja to Tosari. The railway from Bangil to Malang runs between two mountain ridges, Tengger Mountains on the E. and Mt. Kawi and Ardjoeno Mountains on the W. Between them lie the plains of Lawang and Malang. The state railway, which runs from Djokja or Solo to Soerabaja, has a branch line starting from Kertosono, about halfway between the two. The branch line runs from Kertosono to Blitar, Lawang, and Bangil, and thence to Soerabaja, forming a great link line. The regions lying along it are not only rich in beautiful scenery, but also noted for the production of sugar. Sugar is exported by this line to Soerabaja and Pasoeroean. This link line is the route we are now going to describe. The entire excursion generally requires ten days. Those who have not much time to spare may omit the volcanic lake of Mt. Keloet and thereby save three days. In this case, the route runs from Soerabaja southward to Porrong, instead of to Kertosono, and from Porrong to Prigen (the starting-point of the excursion to Ardjoeno Mountains) by carriage. The return trip is made from Prigen to Bangil by carriage, and then from Bangil to Malang by train, and from Malang to Poedjon by trap. One should stop at Poedjon long enough to see Mt. Kawi and other places of interest in the vicinity. From Malang one comes back to Soerabaja, unless one is going to combine an excursion to Tosari with this trip; In that case, one should go to Tosari either from Malang or from Lawang (see P. 460) and come back to Soerabaja, via Pasoeroean.

Volcanic Lake of Mt. Keloet.

Passengers starting from Soerabaja, as well as those coming from Djokjakarta and Solo, have to change at Kertosono (166 km. from Solo and 84 km. from Soerabaja) for Blitar (93 km. from Kertosono, six trains daily, one of which is a fast train and arrives at Blitar in about 2 hrs.). From Kertosono the railway runs directly S., until it reaches Kediri (29 km., in ½ hr.). Kediri is the capital of the residency of the same name and has a population of 40,000. E. of Kediri is Pare, the junction point of all the private lines in this locality. It is connected with Kediri, with Papar on the N. W., Djombang, a station on the state railway, and Babat, where one can make connections with the trains of the Dutch Indian Railway Co.'s Line.

Toeloengagoeng is situated 59 km. S. of Kertosono (about 1 hr. 10 mins.' ride); it is the next most important city to Kediri and has a population of 16,000. To the W. of it is Trenggalek, noted for its production of earthenware. The line, turning eastward from Toeloengagoeng, runs to Blitar.

Blitar has a population of about 10,000. It is a prosperous industrial city, and its inhabitants are well off, though they suffered greatly in the eruption of Mt. Keloet in 1901. There is an hotel, called the Hotel du Chemin de Fer, through which one can order a guide, trap, and provisions.

The charge for the trap is *fl.* 6, the guide's fee, *fl* 4, and the hire of a coolie is *fl.* 1. The round trip requires 14 hrs. One should start at 5 a.m. The mountain path is hard and rough, and on this account the trip is not recommended to tender-footed tourists and ladies.

From Blitar to Panataran the road is level and fairly good and can be travelled by trap. At Panataran is the ruin of a Hindu temple, which is the next greatest to that of Boroboedoer. It was built in the 14th century and is surrounded by a triple gallery, beautifully decorated with bas-reliefs.

In about one hour one will come to Tjandi Sewoe, from where one has to walk, accompanied by the coolie who bears one's baggage. Going along a narrow gravelly path through many coffee-fields, one comes out shortly on the bank of the Kali Mas. Except in the rainy season, the river is nearly dry and full of rocks. One has to cross it on foot. A narrow path leads up and down across many little streams. Here and there bamboo ladders hang over precipices and one has to climb up them. Presently one will see Mt. Soengging looming up in front, and then one is already near the lake. The path leading to it is hilly and goes up in sight of the cataract made by the water falling down from the lake. From this vicinity a path leads up to Mt. Welirang ('Sulphur Mountain'), which rises opposite Mt. Obat ('Herb Mountain'). It is not high, but from its summit can be seen the water of the lake of Mt. Keloet, like a huge mirror laid directly beneath it, as if to reflect the shadows of the surrounding mountains. It is a calm, soothing, almost awe-inspiring sight. The diameter of the lake is 15 metres, and its elevation is 1,252 metres above the sea-level. On the bank is a little, simple shelter of the department of public works. Here one may eat one's luncheon and then start on the return trip. From Tjandi Sewoe to the lake the trip requires about 5 hours.

From Malang to Mt. Kawi and its Vicinity.

From Blitar to Malang there are five trains daily. The distance is 74 km. and can be travelled in a little over three hours. (From Bangil to Malang the distance is 50 km., 1½ hrs.' ride, seven trains daily. One of the afternoon trains is a fast one.)

Malang is situated in the centre of Malang Plateau, 484 metres above the sea-level, lying between Mt. Kawi and the Tengger range. It is a starting-point of the excursion to Tosari and Mt. Kawi, and the seat of the assistant resident. It is noted as one of the health resorts in Central Java and has a sanatorium, called Rampal, which, though rather expensive, is a very well equipped hospital. The city spreads eastward along the bank of the upper stream of the Brantas, and there are a good many modern European houses and also a barrack. Its hotels are Hotel Jensen and Hotel Marinus Jansen. The places of interest in the vicinity are:—

Wendit, situated N. E. of Malang and reached by trap in about one hour (return trip fare, *fl.* 3 by trap and *fl.* 6 by carriage). One may take the train to Blimbing and thence go on foot for one hour. Hotel Wendit stands by the lake. On Sundays it is generally crowded with guests, who come for fishing, boating, and swimming.

Singosari is situated 10 km. N. of Malang. The train runs to the Singosari Station in about twenty minutes, and from there

one has to go either on foot or by trap. The ruin of a Hindu temple is to be seen here.

Toempang can be reached by the tramway from Malang (fare, *fl.* 1.50). It has the ruin of a temple and a bathing-place called Soemberringin. The round trip fare by trap from the Toempang Station to the ruin and the bathing-place is *fl.* 1. Further S. W. of the station is the temple-ruin of Kidal. The round trip fare is *fl.* 3. If one goes direct from Malang to Toempang and Soemberringin by carriage, the trip will take about two hours, and the round trip fare is *fl.* 16.50 (*fl.* 5 by trap). Toempang, like Djaboeng to the N., is a stopping-place on the route from Malang to Tosari. The trip can be made via either of the two, and either will cost *fl.* 7 on horseback and *fl.* 10 by sedan-chair.

Mt. Kawi and its Vicinity. One should make Poedjon (1,120 metres above the sea-level) the starting-point of one's excursion in this region. Poedjon can be reached from Malang either by motor-car or by trap. From Malang to Batoe (also called Sisir, 880 metres) the distance is 12 m. and can be travelled in two hours by carriage. From Batoe to Poedjon the road is hilly and runs winding along the foot of the mountains. The surrounding scenery is beautiful, and, looking backward over the trail one has passed, one will see the ridges of Tengger Mountains in the distance, and farther back the cloud of smoke rising from Mt. Smeroe can be seen. Before long one will come to Hotel and Sanatorium Songoriti, which is a modern building, nestling at the foot of a hill, and well equipped. It runs a motor-car to Malang for the convenience of its guests. It is 970 metres above the sea-level, and in its vicinity are eight hot mineral springs, the water of which is good for rheumatism and inflammation of the liver.

From this hotel to Hotel Poedjon it takes half an hour, the latter standing at an elevation of 1,120 metres above the sea-level. Though larger than Hotel Songoriti, it is older and not so well equipped. Continuing to ascend for another half hour, one comes to Hotel Lebaksari, noted for its neat swimming-bath, Wilhelmina. The fares from Malang to all these various points are as follows:

	fl.	*fl.*
To Batoe	7.50 (up)	5.00 (down)
„ Songoriti	8.50 („)	6.00 („)
„ Poedjon	10.00 („)	7.50 („)
„ Lebaksari	11.00 („)	8.50 („)

Djoban Rondo. On climbing Mt. Panderman, to the N. E. of Mt. Kawi, one will see the precipitous peak of Ardjoeno rising on the N. and the range of Tengger Mountains looming up beyond Malang Plateau. In this vicinity is the cataract of Djoban Rondo. It can be reached either on horseback or on foot in about 1½ hrs. The fare is *fl.* 2.50 on horseback and *fl.* 3 by sedan-chair.

Ngantang. The route from Poedjon to Ngantang is one of the most beautiful bits of scenery in Java. It runs through rich and varying mountains and valleys; verdant foliage covers the mountain slopes, and a rapid stream (the Kali Konto) runs fantastically through the valleys, here and there forming cataracts and spray-

ing mist all over the road. The most interesting falls are Tretes and Kedong Redjo. Up to Ngantang, the road is wide and can be travelled over by a trap. The time required is about two hours, and the fare is *fl.* 4.50 by trap, and *fl.* 3.50 on horseback.

Mt. Darawati. After crossing the bridge over the Konto, which runs beside the road from Poedjon to Ngantang, a hilly by-path leads through coffee-plantations to Mt. Darawati. Though there is no object of interest on its summit, this mountain commands a fine view of the surrounding country. If one starts early in the morning, one will be back at the hotel by noon. The round trip fare by sedan-chair or on horseback is *fl.* 3.50. A guide can be engaged for 50 cents.

Lawang and its Vicinity.

Lawang is situated between Mt. Ardjoeno and the Tengger range, at an elevation of 500 metres above the sea-level. It is one of the health resorts in Eastern Java and enjoys excellent railway facilities. During the hot and dry season it attracts many visitors from Soerabaja, from which city there are six trains daily, one of them being a fast train taking 1¼ hrs. From Malang seven trains run daily, reaching Lawang in ½ hr. There are many residences of Dutch ex-officers, who have chosen this pretty and cool spot as a place in which to spend the rest of their days. Its hotels are Berg en Dal and Hotel Lawang. The former is situated near the back of the station, and the latter a little further away, but not very far. During the hot season, since these hotels are crowded, some private houses take in paying guests. The places of interest in the vicinity are :—

Bambangan Road. About 2 m. distant. The route commands a fine view of Lawang Plateau, the range of Tengger Mountains, and also of Mt. Ardjoeno.

Falls of Baoeng. About 4 m. distant. One may descend to the base of the fall and let its water pour over one. There is a small inn near it, and the neighbourhood presents some pretty scenery.

Helfach's Garden. About 1 m. distant. It is a small garden laid out in the Baroque style and has a great many tropical plants and also some European flowers.

Holy Bath at Polaman. A modern bath-house stands near the forest of waringin-trees, in the branches of which monkeys are seen at play.

Ascent of Mount Wedoe. About 2 ½ m. distant, reached by a narrow path that branches off from Bambangan Road, mentioned above. It is noted for its fine view of the surrounding country. The above places can be reached either on foot or by trap.

The Ardjoeno Mountain Resorts.

Prigen (580 m.) and ***Tretes*** (790 m.) are the starting-points for an excursion to these mountain resorts. Those coming from

Malang, Lawang, or Pasoeroean, arrive at Bangil by train and thence go to Prigen or Tretes, via Pandakan, by trap (*fl.* 3.50). But those coming from Soerabaja leave the train at Porrong and thence proceed by trap (*fl.* 3.00). Both from Bangil or Porrong to Pandakan run the cars of the Modjokerto Steam-tramway (fare, 40 cents). From Pandakan to Prigen or Tretes, a trap must be taken and its fare is *fl.* 2. Any of these routes will require about two hours. From where the trap stops, one has to walk up a hilly path for about ten minutes to Hotel Prigen, and for about thirty minutes to Hotel Tretes. Over this latter path, both horses and coolies are available for luggage.

Between Soerabaja and Porrong there are nine trains daily; the distance is 35 km.—about 1 hr.'s ride. The distance between Pasoeroean and Bangil is 16 km. (about 20 mins.' ride), and there are eight trains daily. From Malang or Lawang to Bangil, there are seven trains daily; the distance from Lawang is 31 km., about 40 mins.' ride.

The places of interest in the vicinity are:—

Trawas, situated N. W. of Prigen and able to be reached on horseback (*fl.* 1). It is noted for the beautiful scenery along its route, and the view of Ardjoeno Mountains and Mt. Penanggoengan (1,652 m.) from the villa Soeka Seneng. This villa is neatly built and has a pretty rose garden. It is also equipped for the accommodation of guests; but only those who have permission from the assistant resident of Modjokerto are admitted.

Mt. Welirang (3,150 m.). Tourists wishing to climb this mountain should request the hotel manager to prepare the necessary provisions for the trip. On the first night of the expedition, one has to put up at a hut on Mt. Lalidjiwo. This hut belongs to Mrs. de Clonie Mc. Lennan, who lives at Tretes, and her permission must be secured beforehand. It has four bed-rooms, a kitchen, and a little stable. The journey to this hut will take about five hours, so that one has to leave the hotel late in the forenoon, or before one o'clock in the afternoon. The road is hard and rough in some places, and it is advisable to go on horseback. The way leads through coffee-plantations, forests of tjemara-trees, and fields green with clover. The temperature is about 50° Fahr., and thick mist often spreads over the fields, wetting one's clothes. One feels as though one were travelling in a country of Northern Europe. Spending the night at Lalidjiwo, one should leave it about five o'clock in the morning for Mt. Welirang. Along the path tjemara-trees grow thickly, some of them half burnt by the frequent forest fires that occurred a few years ago. There are several huts on the mountain, inhabited by miners, who go out during the daytime to Mt. Welirang to gather sulphur and at night keep a watch for forest-fires. The sulphur they gather is transported to Pandakan and sold there. The scenery of the mountain is interestingly varied, and from its summit the sea can be descried, appearing hazily far beyond the plain that spreads out at the mountain foot. Directly N. of it rises Mt. Penanggoengan, and towards the S. E. are seen the mountain ranges of Tengger, Atjek Atjek, Koetoegan, Koekoesan,

Djembangan, and lastly Mt. Smeroe, with a cloud of smoke rising from its top. To reach the summit from Lalidjiwo takes about 4 hrs. The path runs along a stream, across the plateau, and between overhanging precipices of rocks. On the slope near the summit sulphurous vapour is seen rising here and there. The return trip to Lalidjiwo takes about 3 hrs. and thence to Prigen about 3½ hrs. on horseback. The cost of staying overnight in the hut at Lalidjiwo is *fl.* 2.50 for the rent of the room, *fl.* 1 for boy, and 50 cents for the use of the stable.

The round trip fare from Prigen to the mountain is *fl.* 4 for the horse and *fl.* 2 for the coolie.

Other places of interest are:—

(1) Mt. Limas (1,300 m.). The round trip fare is 75 cents for the use of a horse, and the trip takes about 2 hrs. Its summit commands a fine view of the surrounding country.

(2) Mt. Penanggoengang (1,652 m.), *fl.* 3 for the use of a horse. The view from its summit is fine.

(3) Sacred Tree, 75 cents for a horse.

(4) Indrokilo. Here, S of Prigen, is a Buddhistic ruin; 4 hrs.' trip on horseback, *fl.* 2.50.

(5) Mt. Boetak (1,210 m. W. of Prigen), *fl.* 2 for a horse.

(6) Soember Wekas and Plateau (Gadja Redjo), 75 cents for a horse.

Tosari and Its Neighbourhood

Tosari is the health resort for the inhabitants of Soerabaja, just as Buitenzorg, Bandoeng, and Garoet are for the people of Batavia and its vicinity. It is situated at the foot of Mt. Argawoelan in the province of Pasoeroean, S. E. of Soerabaja, and is noted for its clear, dry air. It is also the starting-point for an excursion to Mts. Bromo and Smeroe in the volcanic mountain range, Tengger, which is the greatest of the kind in Java.

Two routes lead here from Soerabaja: (a) one is by train from Soerabaja to Lawang, and thence to Tosari either on horseback or in a sedan-chair: (b) the other is by train from Soerabaja to Pasoeroean and thence by motor-car to Tosari.

The visitor may choose either, according to his convenience, but the latter route is shorter and better equipped. By taking the first morning train that leaves Soerabaja, one will be able to reach Tosari Sanatorium by noon. Early next morning one can visit Mt. Bromo and come back to Pasoeroean by motor-car, and, taking the train from there, one will arrive at Soerabaja in about 1¾ hrs. The whole trip requires two days, but, if visitors have more time to spare, they may visit Mt. Smeroe or stay longer at Tosari and enjoy its refreshing air. The above two routes are described more fully below.

(a) Leaving Soerabaja Goebeng Station early in the morning, one arrives at Lawang (75 km.) in about three hours. By wiring to the manager of Hotel Nongkodjadjar (Telegraphic address; Weyrich, Lawang) one day before departure, a horse or sedan-chair will be waiting for one at Poerwodadi. From Lawang to Poerwodadi there is a carriage, which takes about half an hour. From there on, one has to travel on horseback or in a sedan-chair. A little way along the road to Poerwodadi is Soember Porrong Lunatic Asylum, which is quite worth seeing.

This asylum was built by Dr. Lykles about seventeen years ago, and at present it contains about one thousand native and two hundred European patients and is considered the greatest asylum E. of the Cape of Good Hope. It is enclosed by tree-hedges, and within are a flower garden, cultivated fields, and a stock-farming place. The patients are treated most liberally, and each is employed in the work he likes best, such as raising flowers, making baskets, etc. It is also equipped with a club, a cinematographic show, and other means of recreation. Dangerous patients are kept in a separate quarter. The asylum is frequently visited by physicians and psychologists for the purpose of scientific investigation.

From Poerwodadi to Nongkodjadjar the road runs through beautiful country rich in natural scenery. The distance can be travelled in three hours on horseback. The carriage fare from Lawang to Poerwodadi is *fl.* 0.75, or *fl.* 1 if one calls at Porrong. The fare for the horse from Poerwodadi to Nongkodjadjar is *fl.* 1.50, that for the sedan-chair is *fl.* 4.50. An unsaddled horse can be hired for *fl.* 1 and a coolie for 80 cents.

The Hotel Nongkodjadjar is built in the pavilion style and has a large flower garden. The ground is situated at an elevation of 1,212 metres.

Mt. Bromo.

Six miles N. of it is the waterfall of Ramboetmojo, about 300 ft. high. The return trip to this fall will take 4 hrs. on horseback (*fl.* 2.50). There is no great volume of water in the fall, and the trip is interesting more for the beauty of the scenery along the road than for the fall itself. Near it is another cataract at Wonosari. Other places of interest in the vicinity are Veth's Hill, 5¾ m. N. E. (1½ hrs. and *fl.* 1.50 on horseback), Mt. Lawangan, 9 m. S. (3 hrs. and *fl.* 2), and cinchona plantations (8 m., 2 hrs., and *fl.* 1.50).

Continuing on horseback from Nongkodjadjar past the villages of Kletok and Ngadiredjo, one comes to the village of Ngadiwouo (7½ m. distant) in about 2½ hrs. This village contains the Hotel Tengger visited by guests for recreation.

From Nongkodjadjar to Tosari the distance is 93¼ m., travelled in about 3 hrs., either on horseback or in a sedan-chair. The charge is about fl. 3 for a horse and fl. 5 for a sedan-chair. A horse without a saddle can be hired for fl. 1.50 and a coolie for fl. .80. The tip to the horse attendant is 25 cents.

(b) In order to catch the motor-car from Pasoeroean to Tosari, one should leave Soerabaja by the first morning train (leaving from Soerabaja Goebeng Station). One must also wire to the Hotel Tonjes, agent of the Sanatorium Tosari, at Pasoeroean, before leaving Soerabaja, in order to make sure of both hotel and motor-car accommodation. As Tosari is very cool in the morning and in the evening, visitors should be provided with suitable clothing. All necessary bedding is provided by the hotel.

(1) **From Soerabaja to Pasoeroean:** The whole country is low and has few sights of interest. The fields are planted mostly with sugar-cane. The railway runs parallel with the road, about 12 km. inland, following the line of the coast. Passengers will be able to observe the costumes and manners of the natives along the coast, and also Javanese vehicles of a peculiar shape. Near Wonokromo are oil fields belonging to the Dordrecht Petroleum Co. At Didoardjo Station (22 km.) the railway divides into two. The right (west) branch goes to Modjokerto. From Porrong (31 km.), opposite the Brantas Canal, the main railway runs in closer view of the mountains, and the ground becomes higher. At the green foot of a mountain, one will see a white horse-shoe-shaped wall, this encloses a Chinese cemetery. Up to this point the line has run southward, but from here on, it runs in an easterly direction. Towards the right rise Mts. Penanggoengan and Ardjoeno, and far in front appear the range of Mt. Tengger and also the volcano, Smeroe.

The next station, Bangil (43 km.), is the junction point of the line that runs to Malang. As the train crosses the Bangil, Madoera Bay appears on the left, and the train soon reaches Pasoeroean.

Those, who intend to proceed to Tosari direct from Djokja and visit Soerabaja on the return trip, should take the morning fast train from Djokja to Soerabaja. The train will arrive at Soerabaja Goebeng Station about one o'clock in the afternoon. Since there is a considerable time before the departure of the last train to Pasoeroean, one may dine leisurely either at an hotel in Simpang (about twelve minutes' walk from the station) or at Restaurant Grimm. Taking the fast evening train, one will arrive at Pasoeroean in 1⅔ hrs. (2¼ hrs. by the ordinary train), where one may pass the night and the next morning start for Tosari.

Pasoeroean: (59 km. from Soerabaja Goebeng Station). This is the capital of the residency of the same name and has a population of 28,000. Before the building of the railway in the eastern part of Java, Pasoeroean was a great commercial city in Eastern Java. Until fifty years ago it was counted as one of the four great cities of Java, and even now traces of its former prosperity are visible in its many beautiful houses, roads, and office buildings. At present, they are occupied mostly by Chinese. There are also a Greek temple and some beautiful club-houses.

Hotel Tonjes and Marine Hotel are well equipped. Near the wharf are many native houses built out over the water, and along the coast are fish-propagating ponds. The visitor's attention will first be

attracted by the brilliant coloured dresses of the native women, and especially of the girls, who wear a kind of shirt and veil of the colour of the rainbow. About 20 km. S. E. of Pasoeroean is a natural bathing-place, called Banjoebiroe ('Blue Water'). It consists of rocks and limpid blue water, surrounded by trees. Monkeys are seen gambolling in the branches, while fish swim leisurely in the water. Near it are the fragmentary remains of a Hindoo temple and also a so-called holy stone, before which natives offer flowers and little *payong* and burn incense. From Pasoeroean the steam-tram runs to Winongan (about 17 km.), from which the distance is only 2 km. and can be travelled by carriage; but the simpler way is to take a motor-car, which will cover the whole distance in about forty minutes. The return trip fare with three passengers is *fl.* 15, and the carriage fare with two passengers is *fl.* 7.50.

(2) **From Pasoeroean to Tosari:** If a wire is sent beforehand, the hupmobile will be waiting at the station of Pasoeroean, and the visitor with his baggage will at once be conveyed to Hotel Tonjes. Here he rests for a little while and then leaves for Tosari.

The motor-car leaves the hotel at about half-past eight in the morning. The fare to Tosari is *fl.* 15 per person, single journey, and *fl.* 25 return. Luggage up to 130 lb. will be conveyed free of charge. If application be made beforehand, a sedan-chair or a stretcher can also be secured, but these are used only in special cases, such as the travelling of an invalid.

From Pasoeroean to Pasrepan, a distance of 11 m., the road is a wide avenue of tamarind and djati, and the surrounding region is fertile and well populated. Rice and sugar-cane are the chief crops. On the way is a busy market place, called Gondang Wetan. From Pasrepan the road becomes hilly. About one-third of the way from Pasrepan (6 m.) is Poespo, situated at an elevation of 7,575 metres above the sea-level. Here is a branch of Tosari Sanatorium, where those not travelling by motor-car rest and dine (*fl.* 2). From Poespo to Tosari, a distance of about nine miles, the road is rough and very hilly. On fine days monkeys are seen playing in the wayside forests; in wet weather, they hide themselves in the valleys. Ascending further, the forest becomes thinner and cultivated fields again come in sight. The variety of trees also changes; one sees mostly Tjemara trees, which are very abundant in this region. On the road are seen many golden-coloured terias and blue lycaenen, species of moths, flying about, and in the fields potatoes, cabbages, corn, and onions are raised. These vegetables and the cool air make one forget that one is travelling in a tropical country. All around stretches the wide plain of Pasoeroean, and in the distance the ridges of Tengger Mountains rise like huge waves. In clear weather one can see the city of Pasoeroean, appearing like a group of match-boxes shining white in the sun's rays, and the tiny columns like match-sticks rising here and there in the vicinity are the chimneys of the sugar-factories. But the next instant, all this may change into one

blurred mass, wrapped in hazy mist. Sometimes, the mist becomes so thick that one may not be able to see even the figure of one's chauffeur. The air becomes colder and very wet, so that one will instinctively turn up the collar of one's raincoat. Rain clouds gather on the mountains and may be followed by a sudden shower, or they may merge into the original hazy atmosphere, or they may disappear. As suddenly as it comes, just as suddenly does the mist lift, and the flowers of the wayside peep up, as if smiling at the the baffled expectation of the passenger in the car. It is, however, as exhilarating as it is baffling, and good pedestrians may be induced to leave the car, even before it comes in sight of Tosari. Near Tosari, flowers bloom in abundance—mostly forget-me-nots, rhododendrons, mignonette, and buttercups. Some of them are beautifully cultivated in the garden of the sanatorium, which is built in the pavilion style.

Tosari is the best health resort in Java and is situated at an elevation of 1,818 metres above the sea-level. Its temperature always stays somewhere between 62° and 80° Fahr. Its air is clear and dry and is the best tonic for nervous invalids and those suffering from malaria. The Hotel and Sanatorium Tosari is subsidized by the Dutch government and supervised by a physician. The tariff is from *fl.* 7½ to 8½ per day. For a stay of over two weeks it may be reduced to *fl.* 6½—7½, and for a stay of more than one month it may be further reduced to *fl.* 6-7. There are more than eighty apartments, built of wood, and each consists of two rooms, a veranda, and a bath room. Besides these guest rooms, there are a parlour, a library, and a billiard room. Further, in the garden are tennis courts and croquet lawns. As the visitors sit on the veranda, the children of the neighbourhood come to sell fruits, freshly gathered and neatly arranged in small baskets. In the vicinity of Tosari are found many bushes of thorn apple, called *Datara alba.* Their flowers are snow-white and funnel-shaped, about 30 cm. long. From the seeds of their fruits the natives make a certain strong narcotic flour. It is told that once a robber blew this flour into a room through its key-hole, and, while the occupants were fast asleep under its influence, robbed them of everything they had in the room. It is very cool here at night and in the morning. Visitors are warned against taking cold baths before they are a little accustomed to the changed climate, for the bath water, being drawn directly from the mountain stream, is very cold, and may give one a severe chill. They must also be careful to use woollen blankets on their beds; the ordinary 'dutch-wife' won't do in this cool place.

The view of the surrounding country from the veranda of the hotel is very beautiful. Towards the front (N.) of it, there lies spread out the wide plain from Pasoeroean to Bangil, and further N. of it appears the shining water of the straits of Madoera. In clear weather Madoera Island and even Zwaantjesdroogte Island can be seen looming on the horizon. Towards the E. rise Mts. Batoeklinting (2,630 metres), Argawoelan (2,725), and Penandjaan (27,80). Towards the N.W. lies the plain of Lawang, as if calm asleep, and beyond it, beginning from the N., rise Mts. Penanggoengan (1,652), Ardjoeno (3,343), and Kawi (2,651), their clear outlines standing out against the turquoise

sky. The summit of Ardjoeno consists of five peaks and that of Kawi of three peaks. Both can be seen best from Tosari. Mist gathers about these mountains, sometimes on the top like white caps and sometimes around the foot like grey skirts. Sometimes it spreads out over the plain, while these mountains rise out of it like islands from the sea.

On the sloping ground at the foot of the mountain in the vicinity of Tosari are seen many small huts. They are the dwellings of the native tribe called Tenggerese. The members of this tribe have consistently refused to accept Mohammedanism, and they still adhere to their old religion, a form of animistic Hinduism. Their number is about 5,000, and they live closely in their own community shut out from the rest of the world. They are shorter and darker than the natives living on the plain, and are honest and brave, and skilful in farming. But, like most savages, they are also lazy, dirty, and very ignorant. Their huts are built of wood or bamboo. But, since the surrounding forests have been cleared for cultivation, at present they have to fetch the building materials from the forests of distant mountains. These huts have no windows and their entrances all face Mt. Bromo, because their guardian god, Dewa Soelan Iloe, is supposed to dwell at the foot of Mt. Bromo, where the annual feast in his honour is held. Because the air is cool and dry and water is rather scarce, they do not bathe like other natives, but remain dirty. Their children, in spite of the coolness of the air, go naked, and their skin is lighter than that of other native children. By a tradition of their ancestors, the cultivation of rice is forbidden, and instead of rice they raise vegetables, which they carry on horseback down to the market of the city. The vegetables in the markets of Eastern Java are said to come largely from this region. They recklessly cut down the trees of the surrounding forests for fuel, and this practice is perhaps the main cause of the scarcity of water in this region.

Places of Interest in the Vicinity. — Visitors staying at Tosari to recuperate, should make excursions to the various places of interest in its vicinity, for the sake of their health and for diversion. The following are some of such places:

Ngadiwono. This is a little village to the S. of Tosari and can be reached on horseback in about half an hour. The road is hilly. It has an hotel (Hotel Tengger) built on the top of the hill, 1,909 metres above the sea-level, much higher than Tosari. The hotel is a plain little building, but is noted for its good cooking. Near it are raised many cows, which supply the place with delicious milk and butter. The return trip on horseback will cost *fl.* 1 and by sedan-chair, *fl.* 2. A native may be engaged for 30 cents to carry photographic instruments.

Nymph's Bath. This is a little cataract, to the S. E. of the hotel, reached in about one hour on foot. The path is pretty, as it runs beside and across many small streams.

Wonokitri. Further S. E. is Wonokitri, which is united with Proewono and Sedaeng under the collective term, 'Three Dessa' (villages). It is a Tenggerese village, and, though in the village itself there is no special object of interest, the walk to it is a very

pleasant one. There are many *tjemara* along the path, and looked at from a distance they appear like clouds of smoke. The fare is *fl.* 1.50 on horseback and *fl.* 2.50 in a sedan-chair.

From Tosari to Mt. Bromo. One should leave Tosari before dawn. One may walk, but if one has any experience at all, a horse is recommended, for the Sand Sea at the foot of Mt. Bromo is very interesting to ride over. Sedan-chairs are also available. The return trip fare is *fl.* 3.50 on horseback (with a tip of 25 cents to the attendant), and *fl.* 5.70 in a sedan-chair (with a tip of 20 cents to each bearer). A coolie to carry luggage can be hired for 90 cents. The time required for a return trip is six or seven hours. As a protection against the sun's rays, men should wear wide-brimmed hats and ladies, veils.

Leaving Tosari early in the morning one will come in about two hours to Moengal Pass (2,430 metres). Shortly before reaching the pass, the path divides into two. The left one leads to a small hill, on the flat top of which stands a small hut. By the time one arrives here, the sun will have risen and the air become warmer. Here one may have breakfast (brought with one from the hotel). While the horse is resting, one may enjoy the view of the surroundings. Looking back over the path one has travelled, there is nothing of particular interest; but in the direction in which one is going, one will see the rare sight of the so-called Sand Sea, spread out before one's eyes and reflecting brilliantly the rays of the morning sun. Here and there are half dry bushes, and among them the dry beds of streams. Like an African desert, it is boundless,—the symbol of death and solitude. Sometimes when the air is dry and clear, one may observe air-castles floating over them, as in a dream. When the conical mountains cast their shadows on the grey sand sea, the whole sight reminds one of the surface of the moon seen through a telescope. Several volcanoes rise in the midst of this Sand Sea, viz. Batok, Bromo, Widodaren, etc. Bromo rises behind Batok and is

A Distant View of Mt. Smeroe.

partly hidden by it. Grey clouds of smoke spread over its summit, and the sound of its crater is heard like distant thunder. Far in the S. rises Mt. Smeroe. If the sky is clear, the column of smoke emitted from Mt. Lamongan may also be discerned. Bromo, Smeroe, and Lamongan are the three volcanoes in Eastern Java.

The path that descends from Moengal Pass to the Sand Sea is hilly and very crooked, and so hemmed in that no view of the surroundings can be obtained. One has to dismount and walk for about twenty minutes. The sound of Bromo is heard intermittently like the distant cry of Hades, and near by the horse's hoofs striking against the stones make an uncanny noise. Meanwhile one reaches the Sand Sea. Here give the horse a sharp cut with the whip, and it will gallop straight ahead like the wind. Give it the rein, for below is soft sand, and one will not be hurt, even if one should have a fall.

The Sand Sea (*Dasar*, Zand Zee) is a hollow diamond-shaped tract, 8 km. long, surrounded on all sides by bluffs from 335 to 365 metres high. It is quite obvious that it was once a crater. The surrounding mountain ridges are Moengal (2,482 metres) on the N. W. and Ider Ider on the S. Both spread round towards the E., where they become Mt. Poendaklemboe (2,628). On the N. the ground rises gradually, culminating in Mt. Penandjaan (2,770) and farther N., Mt. Argowoelan (2,725). On the N. E., between Penandjaan and Poendaklemboe, lies a long linear dyke, formed by the eruption of this once great crater, and called 'Tjemara Lawang,' or 'Gate of the Spirits'. The River Bades rises here. Scores of years after the great eruption, the crater gradually lost its power and finally became this Sand Sea. At the same time new craters were formed,—Bromo, Widodaren, and Batok.

Later, Mts. Giri, Kembang, and others burst out of the eastern foot of Widodaren and connected Batok and Widodaren into one continuous mountain ridge around Bromo.

Leaving Tosari and going along a hilly road through tjemara-trees (some of which were planted by the Dutch government, in order to preserve the water of the region) to Wonokitri, and from there taking the road that leads to the left (E.), one comes to Mt. Pret. From here, through the branches of the trees, the Sand Sea can be seen, but, proceeding further on the left, one comes to the summit of Penandjaan (2½ hrs. from Tosari), which commands a good view of Sand Sea. But there is no road from here to the Sand Sea, so that those who want to go to Mt. Bromo through the Sand Sea must turn towards Moengal Pass. After descending Moengal Pass, to reach the foot of Bromo across the Sand Sea and around the northern side of Batok, about forty-five minutes are required. Mt. Bromo stands 217 metres higher than the Sand Sea and 2,390 metres above the sea-level and consists of dark lava and sands. There are no trees at all. The horse is left at the foot of the steps that climb up the mountain. The steps are built of stone and provided with iron railings, so that the ascent is rather easy. At the top of the steps is the edge of the crater. The crater is 203 metres deep and is constantly emitting dark grey clouds of smoke and sulphurous fumes. Deep down at the bottom is seen a red flame rising in the darkness, like a serpent's tongue outthrust. Big rocks are cast up

and then fall back, making a thundering noise, as they roll down the inside edge of the crater. It lies down there like a giant in death agony, gasping and groaning. There is a narrow path around the edge, along which one walks. When the wind is strong, one is in danger of being blown into the abyss; and, even when it is slight, if one walks against it, sulphurous gas will cause one considerable pain and annoyance. Visitors are, therefore, advised to leave Tosari very early in the morning, so that they may be able to travel, while the air is cool and calm, and see the crater in the morning before the wind rises.

In May of each year, the Tenggerese hold a feast at the foot of Mt Bromo, in honour of their guardian deity, Dewa Soelan Iloe. Several thousand natives gather on the Sand Sea, and their priests, attired in coloured robes, go up the steps of Bromo to cast offerings into the crater. At the present time, fruits, cereals, and sometimes fowls are offered, but it is told that once even human beings were sacrificed for the purpose.

The return trip is usually made via Tosari. The motor-car leaves Tosari for Pasoeroean at about half-past one in the afternoon and will arrive within the day. Those, who do not care to take the same route, or who wish to see the plateau of Idjen on the E. (see P. 471), may cross the northern side of the Sand Sea towards the E. and come out at Ngadisari, which is a little village with a rest-house. Here they may stop overnight, or, if not too tired, they may proceed on horseback after luncheon to Soekopoero. Soekopoero is a village on the bank of the Prahoe, 848 metres above the sea-level. On its left rise Mts. Penandjaan and Argawoelan. In this region tjemara-trees become scarce, and coffee is grown quite extensively. Driving in a carriage from here, one will arrive at Probolinggo before sunset, via small stations like Bessi and Pilang. The carriage must be engaged beforehand by wiring to Probolinggo.

The fare from Tosari to Soekopoero is *fl.* 6 on horseback (tip to the attendant, 50 cents), and *fl.* 7.50 in a sedan-chair (tip to each carrier, 20 cents). Besides this, the horse for the attendant or guide will cost *fl.* 3, and a horse alone, *fl.* 2. The fare from Soekopoero to Probolinggo is *fl.* 3. The return trip fare is *fl.* 5–6.

Probolinggo is a neat little city, and its commercial activity surpasses even that of Pasoeroean. At the end of a tamarind avenue is a spacious area, where stand the station building, a temple, the Hotel Probolinggo, Hotel Houling, and Hotel Busch. From here to Soerabaja the distance is 98 km. There are six trains daily and the fast train covers the whole distance in 2¼ hrs.

Those who want to see the mountainous region W. of Malang (see P. 456) should go back from the Sand Sea to Moengal Pass. From there, taking the mountain road on the left (southward) and going past Idjo Pass, one will come to Toempang. From Toempang to Malang runs a steam-tram; but this route is similar to that from Tosari to Lawang, via Nangko Djadjar (see P. 458). Both are pretty in the first half, but monotonous in the rest. The latter is the better of the two. Both require from seven to nine hours.

From Tosari to Mt. Smeroe. The trip from Tosari to Bromo is recommended to all visitors who come to Tosari, since

it can be accomplished in half a day. Those who are fond of mountain-climbing should also visit Lake Pani and Lake Regoelo, between Bromo and Smeroe, in the mountain ridge of Tengger. But the trip from Tosari to Smeroe requires three or four days and entails considerable expense. It should be undertaken by a party of from four to six persons.

Supposing that the party consists of five or six persons, the cost per person will be about *fl.* 50 (*fl.* 15 for the horse, *fl.* 15 for the attendant's horse, *fl.* 10 for spare horse, *fl.* 2.50 for the guide, *fl.* 1.50 for each coolie, and *fl.* 3 for 'Slametan,' a good-luck dinner given at the time of departure).

The best season for the trip is the dry season. In the rainy season camping may be unpleasant, besides the road may be slippery. Ladies may be of the party, if they are used to mountain excursions, but some hard travelling after Retjopodo must be expected. Blankets, raincoats, flannel underwear, at least two suits of clothes, gloves, veils, cooking pans, knives, dishes, provisions, water, matches, lanterns, and various other things, must be carried. All but the personal things can be rented from the hotel of Tosari. Generally two horses are required to a person, one to ride on and the other to bear one's luggage; but, if travelling in a party of five or six, one luggage horse may do for two persons. A good, trustworthy guide should be hired through the hotel manager. Excepting the breakfast and luncheon provisions for the day of departure, the rest of the luggage should be fastened on the luggage horses and sent one day ahead, so that the coolies may set up the tent or tents, gather wood, and make all other necessary preparations at the first stopping-place, which will be near Lake Koembala. For other particulars the prospective tourist should carefully consult with the hotel managers.

Since the journey is a long one, one must be careful not to overwork one's horse on the first day. The party should leave the hotel about four o'clock in the morning. The country is still enveloped in the darkness of night, and the horses follow the lantern of the guide. At half past five the day begins to break. Up to Moengal Pass the route is the same as that to Mt. Bromo. After halting there awhile for breakfast (6.30 a.m.), the party descends to the Sand Sea, and, taking the right-hand road and crossing the Sea southwards, comes to Idjo Pass. From there the road turns a little towards the left, in the direction of Mt. Ider Ider. On the left rises Mt Wid daren, verdant with trees. In this part the Sand Sea turns to a green meadow, in which appear many pretty flowers—gardenia, Indian edelweiss, chervil, forget-me-not, and fragrant fennel. On the right, Mt. Smeroe is constantly in view. At Ndangloe the road branches into two. One runs further E. along the foot of the ridge of Ider Ider, and the other leads to the right (southward). The party should take this latter road. It winds about, and along the left side (E.) of it is a valley that appears like a dry river. Lake Pani and Lake Regoelo are in this region. They are surrounded by thick trees, which cast their shadows over the water. Here is a resting-place, and the party may very well take their luncheon there. It will be about eleven o'clock. Those who are not going to Smeroe should go back to Tosari. The return trip fare is *fl.* 6.

From here the road leads up to Ajek Ajek, to the summit of which (2,819 metres) the party will come in about two hours. They had better rest here awhile. From here the road descends, and, running along the foot of Mt. Klossot for some distance, it enters a valley and then turns to the left. Lake Koembala appears through the branches of the trees. At about three o'clock the party will

come to the N. bank of the lake, but the camping ground had better be fixed on the W. bank, under the shade of tjemara-trees. A shower may occur at any time in the afternoon, and at night and in the morning the temperature drops very low, so that on going to sleep each should wrap himself up carefully in his blankets. If the party get up early in the morning, they may climb the mountain and come back here within the same day. But this depends on the weather, for the afternoon weather of this mountain is very uncertain. Cloud and mist may envelop it so thickly, that climbing is impossible. In that case, the party will have to spend another night on the way and climb up the mountain early in the morning. They can easily come back to Lake Koembala within the same day and will be back in Tosari by the evening of the fourth day. According to this plan, the second day's journey will be very short, and the party need not start very early. However, they have to prepare for one and a half days' provisions, tents, blankets, etc., to be carried further on to the foot of the mountain. The horses should be sent back to Lake Koembala, with orders that they shall be back here next morning.

From Lake Koembala the road runs between Mts. Djembangan and Kepala. In about two hours the party will reach the foot of Mt. Smeroe. There they should rest awhile. From there the road descends to the valley and then rises again, and in about two hours the party will arrive at Retjopodo (or Radjapada), where there are two images of Buddha standing on sand and partly buried. Here the party spend night and start early next morning, so that they can see the sunrise from the mountain. Climbing will require about three hours. If it is a moonlight night, the party should get up at about two o'clock and start at once. The mountain is 606 metres high, and the path is first ashy, then gravelly, and near the top it is covered with lava. Gullies and furrows cross the path here and there. On its northern peak stands a surveyor's tripod. The crater is on the southern peak, called Djoenggringseloko. Generally at intervals of half an hour, a cloud of smoke puffs up from it, but sometimes this puffing may occur at much shorter intervals. The visitor has to approach it during one of these intervals. When the sky is clear, the view of the surrounding country is sublime.

Klakah and Idjen Plateau.

Lake Klakah. From Soerabaja to Klakah the distance is 136 km., and there are four trains daily. The fast train, via Pasoeroean and Probolinggo, will reach the lake in 3 hrs. 40 min.

On the bank of the lake are a rest-house and sanatorium of the State Railway. Both (212 metres above the sea-level) command a fine view of the surrounding country. Visitors who want to stop at the sanatorium should apply to the station master. The charge is *fl.* 5 per day.

This lake, like Lake Pakis to the S., lies at the foot of Mt. Lamongan, and, though not very large, it is noted for the beauty of its scenery. It is especially attractive, when the clear outline of Mt. Lamongan (1,636 metres) stands out against the morning or the evening sky and the cloud of smoke rising from its summit is

reflected on the water. Sometimes native women are seen washing by its edge, and a little ripple caused by this act spreads out gently in widening circles far into the centre, calling the observer's attention to the intense stillness of the water, while it lies there undisturbed, a reflection, perhaps, of his own mind at the moment. Lake Pakis can be reached from the sanatorium on foot in twenty minutes. At a distance of about forty minutes' trap-ride is Lake Wendali (or Mendali). The fare is *fl.* 2.

From Klakah a branch line runs to Loemadjang (19 km.) and Pasirian (36 km.). Loemadjang is a starting-point of the excursion to Mt. Smeroe, and it has an hotel, called Grand Hotel. The railway from Loemadjang to Pasirian runs across two or three dry river-beds, which once drew their waters from Mt. Smeroe, but which are now dried up and filled with lava and ashes.

To Idjen Plateau, via Banjoewangi. The line extending eastward, via Klakah, runs across a plain, planted mostly with tobacco, to Kalisat, via Djember. At Kalisat it branches into two. One branch, continuing eastward, goes to Banjoewangi, and the other, running northward, goes to Bondowoso (the capital of the residency of Besoeki), Sitoebondo, and Panaroekan. From Soerabaja to Panaroekan there is one fast train daily. The tourist should take this train to Kalisat (216 km., in about 6 hrs.) and thence take a local train. Since the dining car of the fast train is detached at Djember, passengers wishing to take luncheon on the train should do so before the train reaches this station.

The distance between Djember and Kalisat is 86 km. The fast train will cover this distance in about 3¼ hrs. The line runs mostly along the southern foot of Mt. Raoeng (3,330 metres), and across several streams that rise in this mountain. At Banjoewangi is the Hotel Banjoewangi, where visitors should order horses for the following morning's trip to Litjin.

Idjen Plateau is an old crater, having an area of 53,000 acres and surrounded on all sides by crater walls about 2,000 ft. high.

Lake Klakah.

Around it rise many volcanoes, Raoeng and Socket (2,948 metres) on the S. W.; Tjampid (2,338) and Rante (2,618) on the S.; Merapi (2,799) on the E.; Ringih (1,993) on the N. E.; and the range of Kendeng on the N. W.

The Banjoepoetih flows northward from the plateau, through the mountain wall of Kendeng. Though the plateau is mostly barren, it is comparable neither in the magnitude nor in the uniqueness of its scenery to the Sand Sea at the foot of Mt. Bromo. The most interesting place in the vicinity is Kawah Idjen, a lake on Mt. Merapi.

From Hotel Banjoewangi to Litjin, the distance is 9 m. and can be travelled by trap in about 2 hrs. Litjin is situated at an elevation of about 350 metres and has a rest-house (*fl.* 2.50 per day). Meals can be served here. The fare for the trap is about *fl.* 3.50. From Litjin on, one has to travel on horseback along a path that leads through coffee-plantations, forests, and bushes (about 1,000 metres above the sea-level). In about five hours one comes to a point where another path leads to the right. Taking this path and going on for another hour, one will reach the crater-wall. Below lies the blue water of Kawah Idjen. Like other crater lakes, its banks consist of rocky bluffs and the scenery is very attractive. Those who can spend only one day on this excursion should take luncheon here and go back at once to Banjoewangi; but those who can spend two days should stop overnight in the zinc hut near the lake. (The hut was built by the Department of Irrigation Works.) The key to this hut can be obtained by applying to the native surveyor of Litjin. In the vicinity of this lake are such sights or places of interest as ancient Hindoo remains (believed to be an ancient altar), the bank of the Banjoepoetih ('White River'), caves, solfataras or sulphur wells, and the little lake of Djeding. A native guide is required to take one to all these places. Within the afternoon of the second day one can be back at Banjoewangi. The round trip fare by trap from Litjin to Lake Idjen is *fl.* 6. (*fl.* 1 to the groom), and *fl.* 12 by sedan-chair.

From Banjoewangi to Soerabaja there is a steamer once every two weeks (Royal Packet Navigation Co.'s Line). This company also operates a steamship service from this port to Bali and Lombok Islands once every two weeks. Tourists going to visit these islands have to sail either from this port or from Soerabaja.

Those, who wish to go back to Soerabaja by a different route, should take the train from Banjoewangi to Kalisat and, changing there, proceed to Bondowoso. The trip takes about five hours. On the following day one should take a trap from Bondowoso to Besoeki (21 m. 3½ hrs., *fl.* 10). This route is noted for its beautiful scenery. From Bondowoso to Wringin the road runs up over Mt. Arak Arak, but from Wringin it is an easy downhill road. At Besoeki one has to change the trap and ride further along the coast of Madoera Straits to Paiton. This distance is about 14 m. and requires 1 hr. 50 min. The fare is *fl.* 2.50. From Paiton to Probolinggo there is a steam-tram (2 hrs., *fl.* 1.30). Probolinggo is connected with Pasoeroean by rail (time, 40 minutes). Stopping overnight at Pasoeroean, one will reach Soerabaja on the third day.

Route XXXIII. Bali and Lombok.

Means of Access: The steamer of the Royal Packet Navigation Co. leaves Soerabaja regularly once a week, via Port Boeleleng at the northern end of Bali Island and Port Ampenan on the western coast of Lombok Island, for Benoea on the southern coast of Bali, where it arrives on the third day. On the return voyage it does not call at Ampenan. Instead, it calls at Laboean-Amoek every other voyage and at Boeleleng every time. On the sixth day it comes back to Soerabaja. On every other voyage both ways, it calls at Soemenap of Madoera Island and Banjoewangi of Java. The first class fare from Soerabaja to Benoea is *fl.* 51 one way, and *fl.* 82 for a return trip. When the steamer does not call at Soemenap, the fare is *fl.* 42 for one way.

For travelling in the islands one must largely depend upon horse-carriages, though in some places motor-cars can be secured or horses may be available. Further details will be given under each locality.

General Remarks: Both Bali and Lombok were discovered in 1597 by the Houtman brothers, but their savage inhabitants were not easily subjugated. In 1743 the Soesoehunan of Soerakarta yielded the control of the islands to the Dutch government. The inhabitants were more hostile to this European domination, and the government was obliged to appeal to force of arms several times,—in 1846, 1848, 1849, and lastly in 1894.

Both islands are of about the same size, the total area being 4,050 sq. m. The total population is 525,500, of whom 120 are Europeans, 140 Arabians, and 1,800 Chinese. Bali Island faces Java across the straits of Bali, and, like Java, it is an island formed by volcanic action. Its coast is shallow and full of hidden rocks, having very few ports. Both islands have many rivers, but these are not navigable. The climate is hot, but healthy. Only in the southern swampy regions of Bali, such epidemics as cholera, small-pox, and malaria are more or less prevalent, though by the efforts of the Dutch government the conditions have been somewhat improved. The soil is generally fertile and rain is abundant, so the country is covered with thick vegetation. It is especially adapted to the growth of coco-palms, and coffee is raised almost everywhere, though its quality is not very fine. In spite of all this, it lacks forests of large trees, and timber as building material is imported from other islands. Of its animals, tigers and wild cats are most abundant, especially in the middle and western parts of the islands. Buffaloes, horses, goats, and pigs are raised, as in Java. The most famous animal of Bali Island is the cow, which is exported to other islands. The cows of this island are very fat and beautiful, having large white spots on the haunches.

The inhabitants of both islands generally believe in the Hindoo religion, and its temples, found here and there throughout the islands, are quite unlike those of Java. They are much less impressive, but are more in harmony with the beauty of the natural scenery and the quaint customs and manners of the inhabitants. In this respect, the view near Panalokan in Bali is considered to be the best in the whole of the Dutch East Indies.

The visitor to Bali and Lombok must know that there is no hotel in these islands (with the single exception of a small one at Mataram in Lombok Island).

One must therefore apply beforehand to the local administrative office for the accommodation of its rest-house. The rest-house was primarily intended for the officer of the Dutch government touring in the islands. Though it is well equipped with bedding and provisions, it can generally accommodate only three persons at a time. For this reason, travelling in the islands in a party of more than three persons is practically impossible, unless some exceptional arrangement be made beforehand.

Bali Island :—*Boeleleng* is a port on the northern coast of Bali. It is the gateway to Singaradja, the capital of the island. The steamer stops a little off the coast, so that the passengers who want to land here have to take a boat to the shore. Those who wish to make a tour of the islands in the shortest possible time should go to Benoea and land there. However, it will be advisable to land here also, during the time that the steamer stops, in order to get accurate information as to the time of departure of the steamer on the return trip, and also to drive to Singaradja (about half an hour's ride) to arrange for the use of its rest-house on the day one will arrive there.

The steamer stops at Boeleleng for four or five hours and then leaves for Ampenan in Lombok Island. Those, who do not intend to visit this island later, should try to avail themselves of the time that the steamer stops at Ampenan to get some slight glimpse of the island. The best way is to make a return trip to Narmade. From Ampenan the steamer proceeds to Benoea on the southern coast of Bali Island. The steamer stops off the coast, and passengers will be conveyed to the shore by a sampan (*fl.* 0.50). There may be no conveyance found on the shore, and in that case they must be prepared to wade through the water for some distance.

First Day : From the landing spot a good carriage road leads to Den Pasar (or Badoeng), about five miles distant. The carriage fare is *fl.* 1.50, except on rainy days or when the road is very muddy, when the driver may ask *fl.* 2.50. Den Pasar is the seat of an assistant resident. It is the most important city in the southern part of the island. Lately, more Europeans have begun to live here.

Visitors have to stop here overnight. They should apply to the assistant resident and get his permission to use the rest-house (charge *fl.* 5 per day).

Second Day : While still stopping at Den Pasar, see the places of interest in its vicinity. Tabanan and Kesiman are the most interesting. During the morning one should drive to Tabanan, 14 m. N. E. of Den Pasar. The carriage fare is *fl.* 10 there and back. The road is excellent, and the country along it is more beautifully cultivated than in Java. The chief product raised is rice. On the road many cocks are seen wandering at will. The natives love cock-fights, and cocks are raised thus freely in order to keep their fighting spirit constantly in action. The villages of the island are generally surrounded by a wall, six or seven feet high, and the road leads into them through a gate in this wall; the houses are mostly built of clay and thatched with straw.

Tabanan is one of such villages, but the village itself has no object of interest. The excursion is worth making only for the quaint beauty of the scenery along the road. The visit to Kesiman had better be put off, until one comes round to make a tour of the eastern part of the island. In the afternoon, therefore, one should see the city, its temples, and museum.

Third Day: Leave Den Pasar for Kloengkoeng (about 30 m.). The tourist about to undertake this excursion should engage a carriage or a motor-car at Den Pasar, and if he intends to go from Kloengkoeng to Bangli, he should engage it for the entire trip, for at Kloengkoeng and Gianjar he will not be able to find either kind of conveyance.

The road from Den Pasar to Gianjar, extending for 21 m., runs through comparatively bare and monotonous country, except for the coco-palm groves scattered here and there and a pretty temple at Kesiman, where one may stop and rest awhile. As one approaches Gianjar, the country gradually becomes hilly, and from there to Kloengkoeng the road passes by many spots of attractive natural scenery. Leaving Den Pasar early in the morning, one will arrive at Kloengkoeng a little before luncheon time.

Kloengkoeng, though a little village, is the seat of a controleur. Visitors should call at his office in the afternoon and arrange for the use of the rest-house, and at the same time they should also apply for the use of the rest-houses of Bangli and Kintamani; the charge is *fl.* 3.50. In the rest of the time, one should see the temples and some fine specimens of native sculpture at the controleur's office.

Fourth Day: From Kloengkoeng to Bangli. From Kloengkoeng to Gianjar the distance is 9. m. The tourist need not make an early start; all that is necessary is that he should leave Kloengkoeng early enough to reach Gianjar before luncheon time. From

NATIVES OF BALI ISLAND.

Gianjar to Bangli the distance is about 9 m., but the road ascends gradually. The country is pretty and dotted with many villages. Some native children are seen flying kites, and some men and women hurrying to temples to offer fruits and meat before a deity. The traveller may also happen to see native girls, dressed in their best clothes, dancing before the temple. In Bangli other objects of interest besides the temples are the houses of native nobles. Their decoration is worth careful inspection. As soon as one arrives in the town one should secure a horse for the following day's journey.

The fare from here to Kintamani, a distance of 16 m., is *fl.* 5, and in addition about *fl.* 2 is required for a tip to the attendant and for the horse's feed.

Fifth Day: From Bangli to Kintamani. This route is perhaps the pleasantest one in the whole of the Dutch East Indies. Especially pleasing is the scenery of Panalokan. Panalokan lies about two-thirds of the way between Bangli and Kintamani. It commands an extensive view of the surrounding regions. Looking back, one will see the whole country one has just traversed spread out before one's eyes like a picture. Further away, the waves of the Indian Ocean mark the horizon as far as one's eye can reach, and hazily on it appears Panida Island. To one's right rises the peak of Mt. Batoekaoe, called the 'Peak of Tabanan' (2,370 m.), and to one's left the peak of Mt. Agoeng, called the 'Peak of Bali' (3,200 m.). Towards the E.—the direction in which one is travelling—appears the deep blue water of Lake Batoer, which presents a sublime contrast with the white columns of smoke rising from the two craters of Mt. Batoer (1,700 m.). Further off towards the S. of the lake, rises Mt. Abang (1,790 m.). Near the summit of Mt. Batoer one will observe a dark grey spot, which is the lava formed by its eruption of several years ago. At the foot there is a temple, very popular among the natives of the regions, for it is said that the lava flowing down the mountain stopped at the gate of this temple.

At Kintamani is a rest-house, which commands a good view of the surrounding country; the view of sunrise is especially beautiful. This place is situated at an elevation of about 1,520 metres and is very cold at night. The rest-house is not provided with blankets, so that visitors have to bring their own.

Sixth Day: While stopping at Kintamani, one should devote one day to an excursion to Lake Batoer. Upon application to the keeper of the rest-house, a horse can be hired for the purpose. The fare (including a tip to the attendant) is about *fl.* 2. The road leads from Kintamani back to Panalokan, from where a narrow path, very hilly in some places, leads to the solitary village of Batoer, about 1,000 ft. below Panalokan and reached in about half an hour. From this village to the lake the path is a very hard one, as it runs over the lava cast out by the eruption of Mt. Batoer. A visit to the crater of this volcano is hardly worth making, since the path is too difficult to justify the rather insignificant interest the visitor may find there.

Seventh Day: From Kintamani to Singaradja (31 m.). An early start should be made from Kintamani. From there to Tamblang

the distance is 19 m., which can be travelled on horseback in about 3½ hrs. The fare (including a tip to the attendant) is about *fl.* 6. The road makes a gradual ascent until it reaches Koeta Dalem, the highest spot on the route. It runs alongside of many old craters. From Koeta Dalem it turns to the left (westward) and far at the end of it appears the water of Sunda Sea. The chief industry of the surrounding regions is coffee-growing. Ere long one enters the village of Tamblang, where carriages may be secured. At the northern end of the island is Koeboetambahan, and the road leading to it is good and wide. Not far from it is Sangsit where there is a beautiful temple. Next to this is Boeleleng, which is a port forming the gateway to Singaradja, about two miles distant. Boeleleng is built on low ground, but Singaradja is a little higher and surrounded by beautiful country. It is also a healthy spot. It is the capital of both Bali and Lombok Islands, and the Dutch Resident of these two islands stays here. It has a population of about 9,000, of which about 50 are Europeans and about 900 are Chinese.

One will arrive here early in the afternoon and may go at once to the rest-house for which one applied at the time of landing. There one may take one's luncheon and devote the rest of the afternoon to rambling about the city. During this time one should call on the Resident and apply for the use of the rest-house at Moendoek. The rest-house of Singaradja is the best-equipped one in the whole island, and the charge is from *fl.* 6.50 to *fl.* 8.50.

Eighth Day: From Singaradja to Moendoek. From Singaradja to Poemahan the distance is four miles and can be travelled by trap. From there on, one has to ride on horseback. At Gitgit is a small rest-house, where one may rest. The surrounding country is hilly, and the visitor will be struck with admiration at the sight of the beautifully cultivated hillsides. As one proceeds, one will reach the highest region of the island, from where all rivers flow down either northward or southward. Going further on, with Sunda Sea towards the N., one comes to Toja Ketipat, where the road subdivides into two. The branch that continues straight on from the main road leads to Batoeriti, via Lake Bratan, and the other that diverges to the right goes to Moendoek, via Lake Boejan and Lake Tamblingan. The branch-path that leads to these lakes is precipitous, and close to the bank of the lakes it has to be ascended by a ladder. Moendoek has a neat rest-house, from which the view of the surrounding country is almost sublime. In its vicinity is a clean swimming bath.

Ninth Day: From Moendoek to Singaradja.

Tenth Day: The exact time of sailing can be ascertained at the rest-house of Singaradja. Driving to Boeleleng and sailing from there, one will arrive at Soerabaja the following day.

Besides the above, there is a road from Kloengkoeng to Karangasem in the south-eastern part of the island, from Singaradja to Moendoek, via Boeboenan, in the north-western part, from Singaradja to Batoeriti, via Toja Ketipat and Lake Bratan, in the middle part, etc. Each of these is a day's trip, but they are more or less similar and hardly worth travelling for the general tourist.

Lombok Island. Facing Bali Island across the Straits of Lombok is Lombok Island. While Bali may be regarded as the southern extremity of the group of islands that are characterized by the fauna and flora of the Asiatic continent, Lombok is the northern extremity of the islands that present the characteristic fauna and flora of the Australian continent.

Those who have seen Bali Island need spend very little time in seeing Lombok, for these two are more or less similar, except in their fauna and flora. As has already been stated, the steamer stops for about four or five hours at Ampenan, and passengers, availing themselves of this time, may make a return trip by motor-car to Narmade.

This trip will afford a brief, but fairly representative, glimpse of the island. Those who wish to see it a little more thoroughly should make a return trip to Selong near the eastern shore of the island. Two miles from Ampenan is Mataram, containing the office of an assistant resident and an hotel, though small, (five rooms, *fl.* 6).

One sight that immediately attracts the attention of the visitor is the dress of the women. Some are dressed exactly like the women of Bali Island, but others are dressed in a very unattractive black coat and a long sarong. The former are Bali women and the latter are Sassaks, who belong to a lower class of society. Women are often seen walking with a basket on the head, while men have the upper part of the body bare and wear the kris at the waist.

From Mataram to Narmade the distance is about 10 m. and can be travelled by trap (fare, *fl.* 4.50 for a return trip and *fl.* 2.50 for one way).

The road is good and level, and the villages lying along it are surrounded by walls like those in Bali Island. Some of the walls have loopholes through which to fire guns. Near Tjakranegara is a native cemetery. Not far from it is the monument of General Van Ham, who fell in the battle of 1894. A little beyond it is Taman Majoran, which was once the summer residence of the late Princes of Lombok. A neat edifice stands on an island in a pond surrounded by tall thick trees. At present it is used as the meeting place of natives. From here the road becomes narrower and runs through a fertile region planted mostly with rice and tobacco. One will reach Narmade in about an hour and a half. Here there is a rest-house, which once belonged to the nobles of this island. The structure of the house, its decoration, and its garden are beautiful in their own way. The charge is *fl.* 3.50 per day. From Narmade to Selong the distance is about 26 m. On the return trip one should go via Paraja. The distance is about 43 m. The surrounding country is fertile and Mt. Rindjani rises far to the N. Those who want to climb this mountain should apply to the office of Mataram for a proper guide; but the undertaking requires a considerable amount of time and money, besides there is no place at which to stop overnight on the mountain or near it.

Route XXXIV. Sumatra.

The Eastern Coast.

Palembang (352 m. from Batavia, in 2 days; 300 m. from Singapore, in 2 days) is the capital (Pop. 60,000) of the residency of the same name. There are many Chinese and Arabian merchants in the city. It is situated on the bank of the Moesi, about 80 m. from its mouth, and is the chief commercial centre in Southern Sumatra. The city has been in communication with China since very early times. It was after 1825 that it came under the control of the Dutch government, and the old palace of the Sultan is now used as the Dutch military barracks and hospital. The part of the fortress that still remains shows its former glory.

Before reaching Palembang, after about half an hour by steamer from the river mouth, one comes to a village, called Peradjen, where are situated the office, residences, oil tanks, and wharfs, belonging to the Royal Dutch Petroleum Co. Oil is obtained at Moeara Enim, 180 km. inland from Palembang, and carried to Peradjen through pipes. (Peradjen, together with Pangkalan Brandan of Sumatra and Balik Papan of Borneo, controls the petroleum market of the Orient.) The native dwelling houses are built on piles driven into the river bed. Each house being surrounded by ditches, at full tide it appears like a raft-dwelling floating on water, and the ditches, like streets, present busy scenes of traffic. But such buildings as the post-office, the barracks, and the residence of the Resident are all situated on hilly spots high above the level of the water. Its inhabitants are generally well off, and all except the very lowest class possess their own houses.

From Palembang to Moeara Klingi, via Sekajoe (104 m.), and Lakitan (160 m.), there is a steam-boat service twice every week. The distance is 180 m., and the boat is a sternwheeler, having six first class cabins, a promenade deck, and a bath-room. The up-trip takes three days (*fl.* 43), but the down-trip takes only about one-half of this time (*fl.* 29). From Moeara Klingi to Benkoelen on the W. coast a government motor-car is run once a week.

Muntok (240 m. from Singapore and 292 m. from Batavia, both journeys requiring about one day). It is the chief port of Banka Island, which is the greatest tin-producing district in the Dutch East Indies. Taking the average of the last three years, the annual product reaches about 250,000 piculs.

Djambi (240 m., in 2 days, from Singapore, and 484 m., in 4 days, from Batavia) is the capital (Pop. about 9,000) of the residency of the same name, situated 120 m. up from the mouth of the Djambi. The town is built on both banks of the river. On the way are Moeara Saba and Simpang.

Riouw or Tandjoeng Pinang (48 m. from Singapore, about ½ day; 488 m. from Batavia, 2 days) is a port of Bintan Island, one of the Riouw Islands, lying E. of Singapore. It is the capital (Pop. about 4,000) of the residency of the same name. Its surrounding islands are noted for the production of pepper and gambier. Tin is

produced in Singkep Island, one of the Lingga Islands, belonging to the same residency.

Rengat (220 m. from Singapore, 2 days) is a port on the main island of Sumatra, belonging to the residency of Riouw, and is situated on the bank of the Indragiri. Near the mouth of the river is Port Prigi Radja. Between the two (about 100 m.) are Sapat and Tembilan, both of which, though small places, are connected with Singapore by the weekly steamship service of the Royal Packet Navigation Co.

Bengkalis (132 m. from Singapore, about one day's voyage) is a port of the island of the same name, lying on the W. side of the southern end of Malacca Straits, facing the mouth of the Siak, and having a population of 7,000. Once (1873-1884) it was the seat of the Resident of the eastern coast of Sumatra, but later the capital was changed to Medan. At present Bengkalis is known only for its fishing industry. The steamers between Singapore and Pakan Baroe (fortnightly service), coming via Selat Pandjong or Tebing Tinggi, generally call at this port.

Pakan Baroe (240 m. from Singapore, 2 days) is a port, situated over 100 m. up the stream of the Siak. On the way is Siak. Behind Pakan Baroe is the borderland of the residency of Padang, traversed by the road that leads from Padang to this place (P. 490).

Belawan Deli, Medan, and Environs:—***Belawan Deli*** (368 m. from Singapore, about 2 days; 144 m. from Penang, one day's voyage; 864 m. from Batavia, about 3 days) is an important port on the eastern coast of Sumatra. Those going to Medan land at this port. The port is situated at the mouth of the Deli, and its harbour can easily accommodate a steamer with a draught of 13 ft., which may lie alongside the pier. It is connected with Singapore and Penang by the weekly steamship service of the Royal Packet Navigation Co. and also by British steamers. On the shore stand rows of warehouses, and facing the pier is the new building of the Deli Railway Station, from where the train runs to Medan (17 km., in a little over one hour).

Leaving Belawan Deli, the train runs across the iron bridge over the Deli (380 metres long and consisting of 20 spans) and past the old landing place, Laboean. From there on, the country is open and the train traverses the plain covered with alang-alang (*lalang*, as the natives call it). Here and there tobacco fields, native villages (*kampongs*), and big warehouses are seen, but the country is mostly a wilderness.

The railway of the eastern coast is owned by a private company and consists of the main line between Pangkalan Brandan and Tebing Tinggi, together with the branch lines between Bindjai and Koeala, Medan and Deli Toea, Medan and Belawan Deli, and Loeboek Pakam and Bangoen Poerba,—92 km. in all.

Medan is the capital of the eastern coast residency. Both the Dutch Resident and the Sultan of Deli reside in this city. It has a population of about 14,000, of which 1,000 are Europeans and 6,000 are Chinese. There are two hotels, Oranje and Medan, and three banks—Java Bank, Nederlandsche Handel Maatschappij, and Chartered Bank of India, Australia, & China. The main office of the Deli Tobacco Co. is also located in this city. Before the

establishment of this tobacco company in 1869, Medan was a solitary little village. But since the company began to open up the country, build railways, roads, and bridges on the one hand, and on the other encouraged the immigration of Chinese labourers, it has rapidly grown into a new city, equipped with modern arrangements. At present the city has many Dutch and English physicians; it contains, too, a large and beautiful hospital and the asylum of the labouring class belonging to the Tobacco Company. In its distinctive features—as exhibited in its buildings and the style of its inhabitants—this city is much more like a city of the Malay Peninsula than one of Java. This is due to the influence of the English, whose activity is more pronounced here than in any other part of the Dutch East Indies. The most attractive buildings of the city are the palace of the Sultan, the new Chinese temple, the various buildings belonging to the Tobacco Company, the military barracks, the prison, and the club. But by far the most important attraction is the tobacco plantation of the vicinity, which is both the source and the evidence of the prosperity of this city. The tobacco of this region is famous all over the world for its fine quality. Recently rubber-planting has been attracting considerable sums of foreign capital and adding still more to the general prosperity of the city.

The entire region of Deli is, indeed, tobacco-land, and in the neighbourhood of the city are many large factories, of which the most important is that of Bindjai, about one hour's journey by train to the W. of the city. Each plantation is controlled by a Dutch administrator. It is divided into four or six districts, and in each district is an assistant. The area used for actual planting each year is about one-tenth of the total acreage, and those parts planted in the preceding year are temporarily rented to natives, who cultivate rice on them. The chief labourers both in the field and the factory are Chinese. The Chinese villages are called *kongsi*, and those of other coloured races, *kampongs*.

Typical Native House in Sumatra.

Excursion to Lake Toba. Lake Toba is situated on a pretty highland about 130 km. S. of Medan. It can be reached both by the River Asahan and by road; the latter has lately been improved and can be travelled over by motor-car (*fl.* 30). The tourist should leave Medan by train to Arnhemia Station (19 km.; 90 metres above the sea-level). Bandar Baroe (53 km. from Medan) is situated at an elevation of 850 metres. Here is a sanatorium (900 metres above the sea-level). From here on, the road ascends through rugged, mountainous country. From the sanatorium of Bandar Baroe, which is the eastern entrance of this mountain pass, to its western exit, Tongket (66 km. from Medan; 1,400 metres), the entire mountain ridge is covered with dense forests of birch-like trees. From Seriboe Dolok (120 km. from Medan; 1,400 metres to the lake, it is about three hours on foot. The lake is surrounded on all sides by mountains, and it contains many delicious fish. The visitor may hire a boat and go round the lake. About one hour's walk from the lake is a village, called Kinalang, noted for the manufacture of Batak *sarongs*.

Bataks are the race living in a part of the eastern coast of Sumatra and the district of Tapanoeli, with the region of Lake Toba as the centre of their habitation. They are divided into various tribes, and their villages have an open tabernacle in the centre, which is used as the meeting-place of the inhabitants and occasionally as a shelter for travellers. Rice-growing forms their main industry, but stock-raising, especially the raising of horses, cattle, and pigs, is also practised in the vicinity of the lake. Socially they are divided into three classes—nobles, common people, and slaves. The nobles comprise the sultan, chieftains, and their families, while the slaves include captured enemies and those who are unable to pay their debts. Husbands have absolute power over their wives. Though Christianity has lately been introduced among them, they adhere for the most part to their inherent religion, which is Hinduism modified by Mohammedan influence.

Tebing Tinggi (Pop. 7,000) is the terminal station S. E. of Medan and reached from there in three hours. It contains an hotel. Several streets are inhabited mostly by Chinese. Its vicinity is devoted mainly to the cultivation of tobacco and rubber. From here to Asahan (or Tandjoeng Balai) on the southern coast a railway is being built.

Asahan (Pop. 3,800) is the capital of the self-governing province of the same name, and both the Dutch Assistant Resident and the native Sultan reside here. It is also a trading port at the mouth of the Asahan. Between it and Singapore and Penang there are weekly steamship services of the Royal Packet Navigation Co. The harbour can easily accommodate a steamer of 500 tons, which may lie alongside its pier. The chief attractions of the city are the two palaces of the Sultan, called the Palace (*Astana*) and the Palace in the Good City (*Astana Kota Dingin*). The chief products are copra, betel-nut, tobacco, and rice, and in its suburbs are two coconut-oil factories. The river is wide and picturesque and has its source in Lake Toba, which can be reached by sailing upstream by boat.

Laboean Bilik (or Panai; 72 m. S. E. of Port Asahan) is one hour by steamer from the mouth of the Panai. It is the capital (Pop. 7,300) of the small district called Panai and is the seat of the Controller of Laboean Batoe Division. From here a steamer

of the Royal Packet Navigation Co. sails from Singapore either direct, or via Bengkalis and Siak.

Bindjai is a station on the route from Medan westward to Koeala, reached from Medan in 1½ hrs. It has several Chinese streets.

Tandjoeng Poera (or Langkat) is situated N. W. of Medan and has a population of 14,000. The Dutch Assistant Resident and the native Sultan reside here. Together with Pangkalan Brandan, the northern terminal of the Deli Railway, it is noted for the export of petroleum.

Sabang (308 m. from Penang, 2 days; 608 m. from Singapore, 3 days; 1,100 m. from Batavia, 4 days by the mail-steamer) is a free trading port at the northern end of Sumatra. It is the gateway from Europe to the East. The harbour is deep, and well protected from winds and waves. It and Emmahaven (see p. 485), on the W. coast of Sumatra, are the two best ports in this quarter. It is separated from the main island of Sumatra by a distance of only 28 m. and is connected with Oelee Lheue by a busy line of steamers, which traverse the distance in two hours. The steamers from Holland to Java call at this port on every outward and homeward voyage; also all the coasting steamers of Sumatra Island are bound to stop here for freight and coaling. Coal is imported to this port from England, British India, and Emmahaven; and the port is equipped with large sheds and wharves, besides floating docks and repairing shops. It has cable communication with all parts of the world.

The city nestles at the foot of a hill and contains many Chinese streets. Though fifteen years ago it was a little, obscure spot, at present it is noted as a coaling station. Its climate is similar to that of Colombo, and, excepting for a certain fever, it is free from epidemic diseases. From this port to Padang on the western coast of Sumatra there is a steamship service of the Royal Packet Navigation Co. (two days' voyage), and to Belawan Deli it is twenty-four hours' voyage by a steamer of the same company.

The water at the entrance of the harbour is beautifully blue, and, fringed by the verdant foliage of the shore, it presents a refreshing sight. We is a small island of 9 m. by 5 m. but its mountain lake, Anak Laoet, is beautiful and worth visiting. It is equipped with a bathing-place.

Oelee Lheue (316 m. from Penang, about two days' voyage; 1,080 m. from Batavia, four days' voyage) is a port at the northern end of Sumatra, facing We Island, and is the gateway to Koeta Radja, the capital of the Government of Atjeh (or Acheen). Between the two there runs a tramway, the distance being 4 km., covered by the cars in 10 min. The port is situated on the delta of the Atjeh, and on its E. rises Mt. Selawa Djanten (or 'Gold Mountain'; 500 metres) noted as the beacon of the northern end of the island. Though the harbour is not very deep, most steamers can come near the wharf. It is well protected from winds and

waves. The Royal Packet Navigation Co. operates a steamship service between it and Penang and Singapore fortnightly.

Koeta Radja was once the great royal city of the Achcen Dynasty, and even at present it is the capital of the Government of Atjeh. It contains a European hotel. In the city and in its vicinity are many remains that testify to the former glory of the Malay Sultan and chieftains. The city lies on both sides of the Atjeh, and the view from its new bridge is very pretty. Native houses are seen scattered in the forests on both sides, and, facing the bridge, by the water stands a large Mohammedan mosque, the great white dome of which rises above the trees of the surrounding forests. The native houses show no peculiar features, and this is probably because they were modified by the influence of Javanese, Madurese, and Ambonese, (who settled here in great numbers during the lengthy Atjeh war), and also of Chinese immigrants. The general appearance of the city is more like those of the Malay Peninsula.

Atjeh and its hinterland lie W. of 98° E. long. and occupy 20,471 sq. m. at the northern end of the island. The total population is about 500,000. Atjeh includes the whole coastal region of this end of the island and is divided from its hinterland, Gajo Land, by a mountain ridge covered with great virgin forests. This coastal region is flat at its E. and N. ends, and hilly towards the S. W. side. The interior region is composed of highlands, having an elevation of more than 900 metres, and is very sparsely populated. The natives of Atjeh are a mixture of Malays and Tamils and are fanatical believers in Mohammedanism, while those of Gajo are descendants of the Batak race, and they lack the fanaticism of the former.

From Koeta Radja to Koeala Simpang, along the N. E. coast, runs the steam-tram (about 450 km.), which was originally intended for the transportation of troops, but now accommodates the general public. From Koeala Simpang to Pangkalan Brandan, the northern terminus of the E. coast line of the Deli Railway Company, is not a great distance, and the two points will be connected by rail in the near future. Along the above tramway line are Sigli, Lho Seumawe, Idi, Bajeuen, and Langsar, at about equal intervals, and at each is stationed a Dutch garrison. They can be reached also by steamer.

The Western Coast.

Telok Betong (120 m. from Batavia, 12 hrs' voyage) is the capital of the residency of Lampong, which occupies the south-eastern end of Sumatra and is known as the port of export for the pepper and coffee produced in the residency. The Dutch Resident resides here. It is connected with Palembang by a mail motor-car service. On the coast are Oosthaven (3 m.), Kalianda (28 m. E.), and Kota Agoeng (76 m. W.), all connected with Batavia and Merak by busy steamship lines.

Benkoelen (376 m. from Batavia, two days' voyage) is the

ENVIRONS
OF
PADANG
Scale 1 900,000
Kilometers
0 5 10 15 20 25 30
20
40
Bondjol
Ambatjaroa
Kota Tengah
G. Sitandjoeng
Soelikit
Pisang
Bungaeng Bunyoring
Tahai
Loeboek 2
Sarilamak
Soengai Dareh
Si Gadang
Pajambamboe
1545
Moeara Paloempoeh
G. Rangkeang
Soengai Deoeriang
Toeram
PAJO KOMBOER
Kota Baroe
Boekit Tandjoeng
Tandjoeng Pisang
Timboe Batang
Mandjoeto
Pandai
Tg. Alim
Bingei
Lubuk Tarab
Lubuk Gadang
Maninggau
FORTDEKOCK
Pandjang Mentai
G. Malintang
2281
Pakan Kamboh
Soengei Dareh
G. Sago
2080
Padang Panjang
Soengei Poear
Si Marapalam
1175
Si...
2618
2877
G. Merapi
2891
Mangoengkoet
Batoe Bangkek
Kota Baroe
2448
Padang Goeling Baroe
PASAR REBO
PADANG PANDJANG
DEBOE POEH
Batoe Taboh
FORT VANDER CAPELLEN
Boeo
Padangpandjang Hoeloe
KAMPONG TENGAH
KARAMB. EMPAT
Karamb.
Gantung
Sompaan
Batoe Pytoeh
Soengei Kawat
Kota Islam
Kajoe Tanam
Padang Lawas
Boekit Kasoer
Si Pandjoe
RAPPANG
Oeroblin Coal Mine
Sampaan
Pasir Mindjoeang
Koeta Malang
PERLAMAN
Soengei Air
Koeta Batang
Pasir Laboe Aloeang
Padangpandjang
Sing Karak
Kandi
Gloegoer
Soengei Gelek
ROEBAAN
MOEWA HALABAN
Soengei Boeloe
1702
Si Lantik
Kandjoe
Soeloeng Kidoel
Soengei Kadjai
G. Hawang
1527
Pajoe
SOLOK
Gosong
1518
G. Bongsoe
DEBOEK BOEWAH
Pitalang
TABING TINGG.
Soewahroeto
Tiboen Tinggi
G. Gadoet
1859
Kampong Doeri
PADANG
Si PADANG
Loeboek Kilangan
Ajer dingin
Loeboek Bargakoeng
G. Soelasih (Taang)
2563
Si Ampoenan
2332
P. Pisang
Tandjoeng Sirih
Pandjang
Pandjang
Pandjang

capital (Pop. 8,000) of the residency of the same name, on the south-western coast of the island. The city was founded in the beginning of the 19th century by the then British Vice-Governor of Java, Sir Stamford Raffles, but in 1824, together with Banka and Biliton, it was restored to the Dutch Government. The harbour faces the Indian Ocean, but is shallow and not very well protected from winds and waves, so that steamers have to anchor some distance off-shore and the passengers to be taken ashore by ferry boats. As regards communications, a road leads to Palembang, and the mail motor-car runs to Moeara Klingi by the upper stream of the Moesi.

The important products of the residency are tobacco, coffee, rattan, wild rubber, buffalo hides, edible birds' nests, gold, and silver. Of these, gold is the most important, and there are at present three gold-mines. Their annual output is increasing each year. In 1908 it reached *fl.* 5,300,000, while that of silver is *fl.* 800,000.

Benkoelen is a pretty, well-kept town, nestling at the foot of a hill. Its streets are wide avenues of trees, and its fort, the chief legacy of the British occupation, stands on the hilly turf ground near the coast. Behind it is a drill-ground. Near it is the large mansion of the Resident. The whole city appears like an English park. There are about thirty European residences, most of them built like villas and remote from the din of the streets.

Padang and Padang Highlands. Emmahaven (572 m. from Batavia, 3 days' voyage) is a port built towards the end of the 19th century, the work taking five years, in order to provide a convenient outlet for the coal produced in the government coal-mine, called the Oembilin Coal Mines, situated in Padang Highlands. The harbour is well protected from the waves by its breakwaters, and its water is deep enough to let a steamer of 25 ft. draught lie alongside its wharf. The difference in depth between full tide and ebb tide does not exceed one metre. It is connected with the mine by a railway, by which coal is carried to the wharf and there directly loaded into boats. From this port to Padang the distance is only 7 km., covered by the train in 20 minutes (1st cl. fare, *fl.* 0.25; trains every two hrs.). Tourists, who wish to enjoy the scenery of the country along the route, may ride in a carriage (fare, *fl.* 0.75).

One of the most attractive places in Sumatra for the general tourist is Padang Highlands, the scenery of which is wholly different from that of other tropical countries.

Those coming from Europe by the Rotterdam Lloyd Royal Mail Line may stop at Padang and see the island before proceeding to Java. In that case they may take the next steamer, which will be due here about two weeks later, or a steamer of the Royal Packet Navigation Co., which sails from here both to Java and Singapore once a week.

Padang (572 m. from Batavia; 604 m. from Sabang; 1,028 m. from Singapore, via Sabang, and 1,104 m., via Batavia), is the capital of the Lowlands of Padang, on the western coast of Sumatra, and is the seat of the Resident and also of various foreign consuls.

Hotel: Oranje Hotel (tariff, *fl.* 5–6); equipped with a livery stable.

Banks and Shipping Agents: Javasche Bank; Nederlandsche

Handel Maatschappij; Nederlandsche Indische Escompto Maatschappij; De Scheepsagentuur (The Ships' Agency, which is the agent of the Royal Packet Navigation Co. and Rotterdam Lloyd Royal Mail Line).

Recreations: Tennis courts at Michiels Square, at Belantoeng, and the Old Cantine Road; football field on the Plein van Rome (Square of Rome). ***Clubs:*** De Eendracht, Plein van Rome, and 'Ons Genoegen,' on the seashore.

The population of Padang is 90,000, of which 2,000 are Europeans. This city is not very large and its houses are plain, though different in appearance from those of the cities of Java. They have high floors, and their roofs are thatched with palm-leaves and turned upward at the edges. They are surrounded mostly by gardens or by tree-hedges. Even European houses are built of wood.

The chief places of interest in the city are the Square of Rome, the Belantoeng, and Michiels Square. The residence of the governor is situated in Belantoeng. The city has three great monuments—the Michiels Monument (standing in Michiels Square), the Raaff Monument (near the seashore), and the De Greve Monument (on the De Greve Kade).

Places of Interest in the Vicinity.—The coast of Padang commands a fine view of the sea. From the city to the Apenberg (Monkey Hill) runs a good road, and on the way is a grotto. From the top of the hill the view of the sea and the surrounding country is very pretty, and in its forest are found many monkeys. They are so tame, that they will come and eat out of visitors' hands. There is also a Chinese temple at Klenten, and at Indarong there is a cement factory.

Padang Highlands (or Padangsche Bovenlanden) is the name given to the entire hilly region lying behind Padang, extending on both sides of the equator and occupying an area of about 8,700 sq. m. The rich and varied scenery of its mountains and valleys is the finest in the whole island; its climate is mild, and the temperature stays about the same throughout the year.

The railway starting from Emmahaven runs past Padang into Padang Highlands. At Padang Pandjang it branches into two. One goes northward to Fort de Kock (87 km. from Padang), and thence eastward to Pajokoembocb (150 km. from Padang), where it terminates. The other goes southward along Lake Singkarak to Solok, where it turns eastward and terminates at Sawah Loento, which is the station name of the Oembilin Coal Mines (148 km. from Padang).

(A) ***Padang to Pajokoembocb,*** via Fort de Kock. Tourists who visit this mountain region should leave Padang early in the morning, in order to avoid the midday heat.

The train runs across many bridges and always in view of the Indian Ocean. In about two hours it reaches Kajoe Tanam. From there on, it runs on a rack-rail eastward between verdant mountains, which become more threatening the higher one ascends. Soon the train will be running beside the rapid stream of the Anai Kloof. The scenery changes at almost every turn of the wheels, like the unrolling of a scroll of pictures. Though usually a narrow stream, when once heavy rain occurs, it swells suddenly, and the flood often washes out its bank and carries away its iron bridges. By applying to the station master, the passanger can get a stool, which he may place in the

foremost car, in order to see the scenery of the Anai Kloof to better advantage. From Kajoe Tanam the train runs to Padang Pandjang in two hours.

Padang Pandjang (situated at an elevation of 773 metres and reached from Padang in about 4 hrs). In its northern suburb is a pleasant little hotel, called Hotel Merapi. The town is the junction point of the line that runs to the Oembilin Coal Mines and is situated about halfway between Padang and the mine. It has a population of about 2,000, most of whom are Malays. Malay houses surround a large central market, and they are mostly roofed with zinc plates. The European houses are built largely in the style of villas. The town is a little Dutch garrison post, and on its race-course stands a monument to three Dutch soldiers, who were killed in the Padri War (1841), after bravely defending the fort of Goegoek Malintang Hill against a fierce Malay attack. The places of interest in its vicinity are the bathing-place at Ajer Mato Koetjing and the Anai Kloof. If visitors can afford to stay here for several days, they may visit Mts. Merapi and Singgalang (see Pp. 488-489), and also Lake Singkarak.

STREET SCENE OF FORT DE KOCK, PADANG HIGHLAND.

Surrounded on all sides by high mountains, this region enjoys abundant rainfall. On the W. rise the twin volcanic mountains, Singgalang (2,877 metres) and Tandikat (2,438 metres); on the N., a group of volcanoes with Merapi (2,891 metres) as the commanding peak; on the E., the wavy ridge of Tanah Datar; while on the S., Mt. Barisan surrounds it like a wall,—Bukit Djarat standing conspicuously above the rest.

Fort de Kock (936 metres) is 87 km. distant from Padang and 20 km. from Padang Pandjang, reached in 1½ hrs. (1st class fare from Padang, *fl.* 2.95). On the way, a little before Kota Baharoe, one comes to the highest spot on the route,—the pass between the twin

mountains, Singgalang and Tandikat, on the left and Mt. Merapi on the right.

Fort de Kock (Pop. 2,300), is the capital of Padang Highlands and possesses a fair hotel, called Hotel Pavilijoen. It has tennis courts, a football field, and a skittle alley, and also an exhibition room of native crafts housed in the building of the Controller of Old Agam. Though commercially insignificant, as a military post it is very important, having large barracks and a military hospital. Other objects of interest are its school for native teachers and its race-course. Horse-races form the favourite amusement of the natives of this region. The Mohammedan New Year is also the greatest festival season for them. Being situated between the two great mountains of Merapi and Singgalang, the views from the town are lovely, especially towards evening, when the glow of the setting sun casts brilliant colours over the mountains. The temperature of the town is about 60° Fahr. in the morning and in the evening, and the climate is very healthy. The streets are beautifully planted with laurels.

The most attractive spot in its vicinity is Karbouwengat (Buffalo Canyon), which can be reached in a short time by taking the path that runs down from the back of the town. Formerly it was a lake. It is surrounded by rocky bluffs of yellow colour, all overgrown with moss and ferns of all kinds, which afford an interesting object of study for botanists. Some of these bluffs are as high as 120 metres, and all are bare on the top.

Lake Manindjau is situated 25 km. W. of the town, at an elevation of 460 metres. It is 18 km. long, 9 km. wide, and 120 metres deep. It was once a crater, and the surrounding wall is from 240 to 1,220 metres high above the water, and its sloping sides are covered with verdant trees and shrubs. On its W. side is a gap, from which a stream called the Antokan flows westward, and beyond it is seen the wide expanse of the sea.

Tourists who want to visit this lake should start early in the morning by an automobile. In about 1½ hrs. Matoer is reached, where there is a rest-house having two bed-rooms and a sitting-room. From here to the lake shore the distance is three miles and can be travelled either on foot or on horseback. From Matoer, one may take a trap and ride to Poentjak Boekit or Padang Galanggang, from either of which a good view of the lake can be obtained. On the way to Poentjak Boekit is a meeting-place of the native chieftains (*balai*), and along the road are seen some native sugar-plantations with crude sugar-mills. Taking luncheon at Matoer, one will be able to come back to Fort de Rock before sunset. Other places of interest in the vicinity of this town are Boekit Oepang Oepang (having a fine view of the surrounding country); Taloek (about 5 km. distant, and noted for its sacred pond and a little Mohammedan chapel standing on the bank); Soengai Tanang (noted for its large bathing-place); the Fall of Soengai Poear, (on the way is a native village called Kapalo Koto), and the grottos about seven miles from the town, reached by trap (fare, *fl.* 1.50).

Merapi is 2,891 metres above the sea-level and is constantly emitting smoke. It may erupt at any time, so that visitors should consult with experienced observers as to the probability of danger, and, if one happens to hear any unusual sound on the way, it will be wiser to give up the attempt to climb it.

Two roads lead to this mountain, one from Padang Pandjang (see P. 487) and the other from Fort de Kock, both passing through Soengai Poear. Prospective visitors should notify the Laras Chief of Soengai Poear of their

needs in the matter of a guide, coolie, provisions, lodging-place, and all other preparations. Those going from Padang Pandjang should take the train to Kota Baharoe (1,134 metres) and thence a trap. After proceeding for about six miles, one will come to the house of the native chief mentioned above. Leaving there about three o'clock in the afternoon, one begins the ascent of the mountain on horseback, travelling through thick forests. By the evening one will reach a watchman's hut, where one puts up for the night (*fl.* 1). The next morning, about five o'clock, one has breakfast and starts to climb at once. In about 2 hrs. the summit is reached. The early morning hours are recommended for this trip, because later in the day thick clouds may envelop the mountain and make the trip impossible, or at any rate deprive it of all its interest. The crater is 200 metres in diameter and 80 metres deep. The view from the summit is superb—the sea, Lake Singkarak, and Mts. Korintji and Tanah Datar can be seen at one glance.

Singgalang (2,877 metres) can be climbed from Koto Toco, which can be reached by trap from Fort de Kock in ¾ hr. Leaving Fort de Kock early in the morning, one will be able to reach the summit before noon. There is a small lake surrounded by old trees, whose trunks are thickly covered with moss. It is a calm and restful sight, and, when the weather is fine, its beauty is enhanced by the open scenery of the surrounding country, over which the eye can roam for several hundred miles.

Pajokoemboeh is best visited on a Sunday, for a great native bazaar is held there every Sunday. Leaving Fort de Kock by the 6.30 a.m. train, one will reach there at 8 a.m. (fare, 1st class, *fl.* 1.). If one wants to visit Kloof van Harau (the Cleft of Harau), one should wire to the Pajokoemboeh station-master beforehand, instructing him to have a carriage ready (round trip fare, *fl.* 2.25), so that one can set out on the trip, as soon as the train arrives at Pajokoemboeh. On the way one will see the large water-wheels, used by the natives to pump up water for irrigation purposes. Originally they were introduced from India. There will be ample time to see the cleft and also the native bazaar before noon. Pajokoemboeh is the terminal station (150 km. from Padang), and the route passes across the mountain range that divides Sumatra into eastern and western halves.

The village is the seat of an assistant resident and has a population of about 2,000. It has an hotel, which, though not very large, is well equipped. It is the greatest market-place in Upper Padang, and all products of the interior are first brought here and then transported to Padang. The chief product is tobacco. Stock-farming is also prosperous in this region, and every year, in a certain season, a great horse and cattle fair is held in this village. A pretty avenue of trees runs through the middle of the village, and from this many narrow streets branch off on both sides. Of its public buildings, a Mohammedan mosque, called Missigit, and the meeting-hall of its inhabitants, called '*balai*,' are the most important.

Kloof van Harau, or Cleft of Harau, is situated 16 km. N. of Pajokoemboeh, reached by trap. It is the most attractive piece of scenery in this vicinity. As one goes along the road that leads from Pajokoemboeh across a fertile plain, there appear rocky walls of the most unique structure, rising sheer from the level ground. In some places water drops in a stream that is like a silver thread, and in others it pours down like a cataract. The walls extend right and left in a series of abrupt projections at intervals of from 20 to 200 metres and are from 200 to 300 metres high. Some are pointed and

some are wrinkled into all sorts of fantastic shapes, and in the middle is a large leaping cataract. There are also some rare specimens of trees and shrubs in the valley.

Besides the above, there are Ajer Tabit (a cold spring, about 5 km. from Pajokoemboeh; round trip fare by trap, *fl.* 0.57) and Mangani (near which is a gold-mine, 60 km. from Pajokoemboeh, reached by trap).

Itinerary for an Excursion along the Eastern Coast Route from Pajokoemboeh (recommended by the Tourist Bureau of Batavia).

1st Day. Leave Pajokoemboeh by trap for Loebock, reached in about 1¼ hrs. From Loebock it is about 1¼ hrs. on horseback to Pinto Angin, and from there proceed on horseback to Kota Baharoe (about 3 hrs.), taking a rest on the way at Kota Alam. Stay overnight in the rest-house at Kota Baharoe. On this trip it is advisable, when visiting the assistant resident at Fort de Kock, to ask his assistance for the hiring of horses, etc., at the same time asking for the necessary permission to stay in the different rest-houses on the road.

2nd Day. From Kota Baharoe to Bangkinang.

By canoe. Leave Kota Baharoe in the morning, so as to arrive at midday at Moeara Mahat, where lunch is taken in the rest-house, or go on to Poeloe Gandang for lunch (to be reached about 2 p.m.). In any case lunch should be ordered in advance by telephone. In the afternoon the trip is continued to Kocok and Bangkinang. Stay overnight in the rest-house at Bangkinang.

3rd Day. From Bangkinang to Tarantang.

Leave Bangkinang by canoe about 7. a.m. for Kampar, where lunch is taken in the rest-house. In the afternoon proceed to Tarantang, where the night is passed in the rest-house.

4th Day. Leave Tarantang by canoe for Taratak Boeloe, which is reached during the morning. Thence by trap in 3 hrs. to Pakan Baroe. Stay overnight in the rest-house at Pakan Baroe.

5th Day. From Pakan Baroe to Singapore.

Leave Pakan Baroe (see P. 480) in the morning by a steamer of the Royal Packet Mail calling at Siak.

6th Day. Call at Bengkalis and Selat Pandjang.

7th Day. Arrive at Singapore.

Fort van der Capellen (Batoe Sangkar). From Fort de Kock the train runs eastward to Baso, and from Baso one can travel in a trap on the new road, that leads along the foot of Mt. Merapi to Tabek Patah, where it joins the old road. The trap must be engaged beforehand by notifying the station-master of Baso. The fare from Baso to Fort van der Capellen is *fl.* 7. A little way before Tabek Patah, a narrow road leads on the left to a small summer-house, near which was a fort, Tandjoeng Alam, now called Benteng Lama (Old Fortress) by the natives. It commands a wide view of the surrounding country, and fifty native villages (*kota*) can be seen at a glance.

On July 26th, 1822, Lieut. Col. Raaff with an army of 15,000 fought against the army of Padris, numbering 30,000, at Tandjoeng Alam, Baroelak, and Toengkar. After several engagements, he succeeded in beating off the enemy and established his headquarters at Tandjoeng Alam.

Tabek Patah, situated at an elevation of 1,030 metres, is the highest spot between Mts. Merapi and Sago (2,080 metres) and has a rest-house. From here to Fort van der Capellen, the road is downhill, the distance being 18 km. The southern foot of Mt. Merapi, known as Tanah Datar, is the country of the tribe called Menangkabau and famous in the history of this island. From here, via Rau Rau and Soengai Tarok, one finally reaches Fort van der Capellen.

From Pajokoemboeh to Fort van der Capellen there are two roads. One joins the road that leads from Fort de Kock and can be covered by a motor-

car in 2½ hrs. The other is a roundabout route, going eastward via Boeo, and along the north-eastern foot of Mt. Sago and the right bank of the Sinamar.

Fort van der Capellen is a quiet town, situated at an elevation of 460 metres. It has both a rest-house and an hotel (*fl.* 6; excellent cuisine). Those who want to use the rest-house must apply to the controller, preferably beforehand. Its beautiful square is surrounded by important buildings of the town. The climate is healthy, and the temperature is slightly lower than that of Pajokoemboeh. The town contains a large coffee storehouse, and near it stands the largest waringin-tree of Sumatra. In its vicinity are many Hindu remains, also the burial-place of the princes of the former realm of Menangkabau. On some stone monuments are inscriptions that date back to the age of Hindu influence. The largest ones are 6 ft. high and 3 ft. wide. At Soeroeaso, 12 km. distant, is another stone monument, discovered by Governor Stamford Raffles.

While visiting Fort van der Capellen, the visitor should not miss an old aqueduct, built by Hindus in the 14th century. It is still fairly well preserved. Near Koeboer Radjo, in the village of Limo Kaoem (about 6½ km. distant), are three large stone monuments that are elaborately decorated.

At a short distance from here is a pretty, wooded place. Leaving Fort van der Capellen and going past Menangkabau, one soon comes to Marapalam, a place famous in the Padri War. At Menangkabau is a beautiful bathing-place.

(B) **Fort van der Capellen to Sawah Loento** (the Oembilin Coal Mines). Taking an early lunch and driving by trap along the southern foot of Mt. Merapi, via Pintoe Angin, one comes to Loeboe Krambil in about 3 hrs. Catching the train from Padang Pandjang, one will reach Sawah Loento in 2½ hrs. The train runs down southward along Lake Singkarak.

This lake is situated at an elevation of 362 metres and is 20 km. long, 8½ km. wide, and 270 metres deep, the total area being 12,496 hectares.

Its water has a pretty colour and on it are floating many fishermen's canoes and other small boats. Its eastern shore consists of precipitous bluffs, closely adjoining the railway, which is often damaged by falling rocks. On the opposite shore rises the verdant mountain ridge of Barisan (900 metres), and on the S., Mt. Talang.

About one-third of the way along the eastern shore, the train will cross the iron bridge of the Oembilin, which flows from this lake eastward through the mountainous region of Tanah Datar. Its lower stream is called the Indragiri and is one of the few very large rivers of this island. From the other side of the bridge to the end of the lake a road runs parallel with the railway. Entering the market of Singkarak, one will observe native men and women, both young and old, walking in the streets, carrying merchandise of various kinds on their heads. Near this village are many rice-fields.

Southward past Singkarak spread extensive *sawah* fields through which flows the River Sumani, which rises in Mt. Talang and empties itself into Lake Singkarak. The train runs southward along this stream to Solok, from where it turns eastward and enters the

valley through which flows the Siloengkang. This region is bare, and except for some shrubs growing in the deepest parts of the valley, no plants can be seen in any noticeable numbers. The country becomes more barren, as one goes further eastward. The train runs down this valley as far as Moearo Halaban, which has been chosen as the future junction point of this line with the E. coast line. In this vicinity are observed some sawah fields intermingled with corn fields, but neither plant is thriving very well. From here the train turns northward and passes through a great tunnel, 800 metres long. Shortly afterwards, it arrives at a little town surrounded on all sides by verdant mountains. This is the terminal station, called Sawah Loento.

In its vicinity are many coal-mines, and the town itself is an industrial town, wholly different in character from other towns and villages. Around its bazaar Chinese stores, residences, and warehouses stand close together. There is also an hotel. But the residences of the Europeans engaged in the mining work are situated along the hillsides, and they are mostly built like villas, while the Malay labourers are quartered in long, temporary camp-houses. Near the station is a great iron foundry. The residence of the Controller stands on elevated ground at the entrance of the valley. Another important building is a club-house, equipped with billiard-tables and a library. Surrounded on all sides by mountains, this valley is hot and dry and lacks vegetation. In the evening, visitors should visit the great electric motor-house and the coal-refining shed.

The Oembilin Coal Mines should be visited the next morning. Visitors are advised to get the permission of the engineer-director beforehand, by sending him a written application stating the purpose of their visit.

The mine was discovered in 1867 by a Dutch civil engineer, Mr. De Greve, and a surveyor, Kalshoven. The former, while inspecting the locality, fell into the Oembilin and was drowned. But the man who carried out a thorough inspection and began experimental digging was Mr. Verbeek. The mine consists of three seams, each 6½ ft. thick and running parallel with one another 80 ft. apart. The galleries are dug with a grade of 8° and are 8¾ miles long. The total capacity is estimated to be about 200,000,000 tons.

As the place is very hot, as soon as one has finished the inspection of the mine, one should take the train (1.30 p.m.) back to Solok and from there begin an excursion to the various places of interest in the vicinity, (from Sawah Loento to Padang Pandjang, *fl.* 2.40; and from Sawah Loento to Pandang, *fl.* 4.75).

Solok is the starting-point for an excursion to the southern highlands, Alahan Pandjang (1,500 metres above the sea-level). There are many lakes in this high region and the whole scenery is sublime. But, being remote, the district is visited by few tourists. A road runs from here north-westward to Padang.

The road from Solok to Padang runs via Loebook Selasi and Tendjo Laut and is 90 km. long. This road has almost been abandoned, but at present it can be travelled either on horseback or by trap (fare, *fl.* 40–50). The view from this road is beautiful enough to repay the cost of travelling. On reaching the highest point, one will see the plain of Padang spreading out far below, and beyond it the boundless expanse of the sea, dotted with islands.

Tourists, who are going back from Solok to Padang by train, should take the first morning train, in order to see the view of sunrise on the lake. It is truly a superb sight.

Route XXXV. Dutch Borneo.

Bandjermasin (Pop. 17,000) is the capital of the residency of the south-eastern part of Dutch Borneo. The population includes 2,500 Chinese, and a few Dutch and other Europeans. Being situated in the southern part of Dutch Borneo, it can be reached most quickly from Soerabaja (Soerabaja—Bandjermasin, 268 m.).

After going up the Barito, the largest river in the island, for a distance of about 12 miles, the steamer comes to the point where the Martapoera joins it. Entering the Martapoera and going upstream for about 6 m. it arrives at Bandjermasin. The Martapoera, though only 200 metres wide, is deep enough to moor steamers of 2,000 tons.

The Royal Packet Navigation Co. operates a steamship service to Bandjermasin from Singapore once a week, from Batavia via Cheribon, Semarang, and Soerabaja once every two weeks, and from Soerabaja once a week. Besides these, there are two lines of steamship service with Bandjermasin as the centre. One goes to Samoeda (160 m.), Sampit (184 m.), and Mendawei (140 m.), on the south-western coast of Dutch Borneo, once a month, and the other goes to Makassar (376 m.) in Celebes, via Pegatan (177 m.), Stagen (184 m.), Kota Baroe (192 m.), and Pasir (316 m.), once every four weeks.

Bandjermasin is built on both banks of the Martapoera, and its streets run parallel with it. The steamer stops alongside the wharf on the right bank. The right bank is the important part of the city, and the left bank is the Chinese, Arabian, and native quarter. These two parts communicate with each other by gondolas. At the centre of the intra-urban portion of the right bank is a park, and adjoining it are the office of the Resident, the post-office, hotels (Grevelinck and Goedbloed), barracks, a military hospital, and banks. The ground is low and damp, and on that account most houses have raised floors. The city is traversed by canals navigable by small boats. They afford excellent transportation facilities to the city. All the products of the regions lying along the course of the Barito are brought down to this place for distribution. The chief products are timber, rattan, wild rubber, dammar, bark, coal, gold-dust, and diamonds. The city does not yet enjoy electric light, gas, or water services. Europeans drink filtered rain water, while the natives drink river water without filtering it.

Martapoera (Pop. about 3,500) is situated 28 m. up the stream of the Martapoera from Bandjermasin. About 8 km. S. E. of it is Karang Intan, and about 6½ km. S. of it is Tjampaka. Both produce rough diamonds, which are brought to the polishing factory of Martapoera. The river is infested by crocodiles, while in the forests monkeys are abundant. Twenty miles farther up the stream is Pengaron (Pop. 1,500), noted for its production of coal and gold. It is also the seat of the Controller.

The Barito is 520 m. long, and its width is 1½ m. at its mouth, 750 ft. at Boentok (164 m. upstream from Bandjermasin), and 650 ft. at Moera Teweh (264 m. upstream from Bandjermasin).

From Moera Teweh farther up to Poerock Tjahoe (328 m. from Bandjermasin) runs the steam-boat of the Royal Packet N. Co. (capacity 100 tons; draught, 2 ft.; speed, 8 knots). The entire region lying along the course of this river is covered with virgin forests and, besides good timber, yields metals and mineral oil. Of animals, deer, boars, wild oxen, monkeys, and squirrels, are most abundant. The inhabitants are almost exclusively Dayaks.

About 36 m. up the Barito is Marabahan (Pop. 2,000). Though a little town, it is the entrepôt of all freight from the regions lying along the upper courses of the Barito and the Negara, at the confluence of which it is situated. Entering the Negara, and going up it for 44 m. (about 7 hrs.' voyage), the boat comes to the village of Negara (Pop. 3,000). It is noted for the manufacture of hardware and earthenware. Sixteen miles farther up is Amoentai. Including its vicinity, it has a population of about 50,000 and is the chief rice-producing district in south-eastern Borneo.

Laoet Island lies far N. of Tandjong Salatan or Silat on the southern promontory of Borneo. The island measures over fifty miles from N. to S. and is twenty miles wide at the widest part. The whole island is covered with forests, and at its northern end, facing W. towards a narrow channel, are the two villages of Stagen and Kota Baroe. The development of this island began quite recently, but it is already producing fair quantities of coal, pepper of an excellent quality, copra, and also edible swallows' nests. Kota Baroe (Pop. 2,000) is the seat of the Controller. There is an extensive pepper plantation run by a Dutchman, and near it is a stock-farm. A few miles inland from Stagen is a coal-mine on a large scale, connected with the coast by a tramway. There is a steamship service to this island from Singapore once a week and from Soerabaja once every two weeks, both via Bandjermasin.

Balik Papan noted for the export of petroleum, is situated on the eastern coast of Dutch Borneo, about 136 m. N. of Kota Baroe, Laoet Island. The harbour faces S. E. and its water is deep, so that steamers with a draught of 37 ft. can safely enter it. At its entrance is a little island covered with trees, and on the eastern promontory stands a little hill with several buildings on the top. The most conspicuous one—a large white building—is the official residence of the harbour master, and the others are European residences.

The port has a hospital belonging to the Bataafsche Petroleum Maatschapij, a custom-house, and a government wharf. The stone building facing the custom-house is the post and telegraph office. Beyond the piers are many large petroleum tanks. A little N. of them stand the refinery and other factories belonging to the company. The motive power of these factories is electricity, and their chief works are the refining of oil and the manufacture of paraffin and machine-oil, and of sulphuric acid for refining purposes. In the yard iron pipes are laid in all directions, and they are connected

with the piers. The crude oil is brought to it from Sanga Sanga by tank steamers.

Balik Papan is connected with Singapore by the Royal Packet Co.'s steamship line, via Bandjermasin, once a week, and via Batavia, Soerabaja, and Makassar in Celebes, once every two weeks. Besides these, many steamers enter this port to get fuel. It is also the junction point of the submarine cable that extends from Celebes to Java.

The town of Balik Papan (Pop. about 8,000) was formerly situated on the site of the present oil factory; but, when the place was appropriated by the factory, the village was moved two miles back. It is connected with the wharf by a tramway and is inhabited mostly by the employees of the factory or merchants connected with it.

Moeara Djawa (108 m. from Balik Papan) is situated on a branch stream of the Mahakam or Koetei. Coal is produced in a region about half a mile inland from the wharf. Near Moeara Djawa the Sanga Sanga flows from the S., and along its upper stream are rich oil-fields. Moeara Djawa is a port lying between Balik Papan and Sanga Sanga.

Samarinda (Pop. about 5,000), situated 12 m. from Moeara Djawa up the branch stream of the Koetei, and 120 m. N. of Balik Papan, is the seat of the assistant resident of the residency of Koetei. Here are brought for further distribution the products of the surrounding region, such as rattan, rubber, honey, edible swallows' nests, and tripang. There are a few official buildings, the post and telegraph office, the custom-house, a prison, and a club-house, which commands an excellent view of the river. From here a small steamboat runs once every ten days to Long Iram, situated about 220 m. up the Koetei. This is the farthest inland that a Dutch garrison is stationed.

Sanga Sanga (Pop. about 1,000) is situated farther up the Sanga Sanga (16 m. from Samarinda). The Sanga Sanga is only 60 metres wide. The surface of the water is covered with oil, and the trees on the bank are turned black. Six miles up the river, the busy scene of oil-pumping comes into view, and both banks as well as hillsides are crowded with pumping-towers. In the river are several piers, near which are gathered many tank boats. Between Sanga Sanga and Samarinda a Chinese steam-boat runs every other day.

About 24 m. up the river from Samarinda is Tenggaroeng, where the Sultan of the residency of Koetei resides. He is a great sultan in South-eastern Borneo, and, together with the Sultan of Pontianak on the western coast of Borneo, once wielded great power and influence. His residence was formerly at Samarinda, but twenty years ago it was removed to the present spot. The building is a magnificent one, such as is rarely found in South-eastern Borneo.

Pontianak (348 m. from Singapore and 440 m. from Batavia) is the capital of Western Borneo and the seat of the Resident. It is also the headquarters of the Dutch garrison. Of its population of about 20,000, 60% are natives, 30% are Chinese, 10% (or about

200) are Europeans, and the rest are Arabs and other Asiatics. It lies directly under the equator, between 109° and 110° E. long., on the delta of the Kapoeas. It is the greatest trading port in Western Borneo. The important products of the surrounding regions are coconuts, betel-nuts, rubber, and sago. Of these, coconuts are the most important, and there are in the city two oil-factories. There are also some mines of precious metals in the vicinity. The Borneo and Sumatra Trading Company has an office in this city, but the real interest of its commerce is largely in the hands of Chinese. All big undertakings in the planting of coco-palms and rubber, the mining of gold, and trading with the natives, are run by Chinese. The city is only two metres above the sea-level and is therefore easily flooded by river water. On this account all communications depend mainly on boats. The residence of the Sultan of Pontianak stands on the opposite shore, and, though a big building, it has lost all the splendour of its former greatness. Between the city and the various points in its vicinity a Chinese boat is run, but the regular service is maintained by steamers of the Royal Packet N. Co., which sail from Batavia once every two weeks and from Singapore once a week. The last service extends to the various ports farther N. of Pontianak.

The region extending northward from here to the Sambas is generally called the 'Chinese district.' The Sultan of this region opened communication with China as early as the end of the 10th century, but the immigration of a large number of Chinese for the purpose of gathering gold-dust began after the 13th century. Ever since, Chinese influence has been predominant in this region, and in 1850, when the Dutch fleet was sent here for the first time, the number of Chinese living here reached 35,000. The war, which lasted for four years from that time, caused considerable damage to the interests of these Chinese, but later on they quickly recovered their strength, and at present the number of Chinese living in Western Borneo amounts to as many as 50,000. Though they have no political influence whatsoever, they control almost all the commercial interests of the region.

The important towns and villages in this Chinese district, enumerated from the S., are Mempawa (with a population of about 3,400, once a flourishing town owing to the mining of gold-dust, but at present a mere gathering place for the agricultural products of the vicinity), Singkawang (situated near the mouth of the Sekawang. In the vicinity are many coco-palm fields. This place is the gateway to Bengkajang, which is the entrepôt for all the products of the region. The distance between the two places is over 75 km., travelled on horseback via Montrado), Pemangkat (situated 24 m. N. of Singkawang at the mouth of the Sambas), and Sambas (situated farther up the stream, and having a population of 12,000. The prosperity of this city is due to the gold-mine in its vicinity).

Route XXXVI. Celebes.

Arrival. The steamships which call at ports of Celebes are the Dutch, the British, and the Chinese. But generally travellers go by steamers belonging to the Royal Packet N. Co. While sailing E. of Java, gentle breezes blow over the deck, so that the passengers do not feel the tropical heat so very severely. In fact, during the night one feels it somewhat chilly, even with two blankets on the bed.

The Royal Packet steamships sail (1) once in two weeks between Singapore and Donggala on the W. coast, via Soerabaja, Bandjermasín (Borneo), and the eastern coast of Borneo; (2) once a week between Soerabaja and Makassar; (3) from Singapore (once in two weeks), calling at Batavia and Soerabaja in Java, Makassar (southern port of Celebes), Balik Papan (Borneo), and Donggala (Celebes), visiting in order various ports to the northward, turning round to Menado at the north-eastern corner, calling at the islands of Sangir and Talaud in the N., returning to Menado, then turning round the eastern corner, visiting various ports on the eastern coast, and reaching Gorontalo; then again returning to Menado and calling again at the various ports mentioned on the outward trip, they return to Singapore.

Makassar (1,100 m. from Singapore and 452 m. from Soerabaja) is situated at the south-western end of the island of Celebes, in 119° 24′ E. long. and 5° 8′ S. lat. It is the capital city of the state of the Government of Celebes, and the Governor resides in this port. The population is about 50,000. The port, which was opened to foreign trade in 1848, faces the large island of Borneo on the W. On the N., there are the Philippines; on the E., the Moluccas and New Guinea; while southward there are the various islands of Flores and Timor, and beyond, the continent of Australia. As the port occupies so important a position in trade and communication, the development of these various islands directly conduces to the development of the port. To-day, it is fast becoming a second Singapore in this quarter.

On the seacoast there is a long pier, about 500 metres, alongside which large vessels can moor. In the sea just off the coast there is a chain of islands, which serve as a defence against the billowy sea. On the pier are found ten or more government warehouses, and their number is fast increasing. The city extends along the coast for 2½ m., and in the several rows of streets, which run parallel with the pier, one finds the commercial houses of Europeans and Chinese—within the so-called commercial quarter.

The chief articles handled by these merchants are copra, rattan, copal, and coffee. There are, besides, nutmegs, cloves, hides and skins, birds of Paradise, mother of pearl, tortoise-shell, wax, sandal-wood, cotton, etc. The articles imported are rice, wheat flour, fabrics, cotton yarn, knitted goods, gold and silver thread, kerosene, coal, matches, hardware, glassware, tobacco, drugs and medicines, biscuits and other provisions, furniture, toys, etc.

Fort Rotterdam is a fort surrounded by high stone walls near the coast. It was built by the chief of Gowa with the assistance of the Portuguese, when they first landed there. In 1667, the

Dutch Commodore, Speelman, wrested it from the native chief. It is now used as barracks for the soldiers stationed there. Near the fort there is a vast open space, encircled by trees, and used for the training of soldiers. In its neighbourhood there are clubs, government offices, hotels, post-offices, the official residence of the governor, churches, and the native museum.

The Museum is built in the native style of architecture. In it are exhibited models of houses, boats, and vehicles, apparel, arms, etc., which serve as materials for the study of the native industry and art.

There are roads leading in all directions. In the principal part of the city, near the coast, large tamarind and canarium-trees are planted on each side of the road. The streets of the city are fine and well-kept; but as yet there is no electric light, gas, or water system. As means of communication, there are a few automobiles, besides a small number of dog-carts.

The city is built on a plain, but it is not so low and warm as in Borneo or Java, consequently the conditions are favourable for health. The common tropical fever is found here as elsewhere; but there is no serious disease. During the daytime, the temperature does not differ from that of Java; but in the mornings and evenings it is very cool and comfortable, for a cool breeze always visits the city, and the painful heat of the noonday is somewhat forgotten. From November to February is the rainy season. In the city there is no general hospital; but there is an army hospital in the N.E. corner of the city, which is perfect in all its arrangements. Ordinary patients are admitted, as well as army men.

In the suburbs of the city, there are very few recreation spots. About 4 m. from the city there is the mansion of the Chief of Gowa, to which one can go by means of a horse carriage. The mansion itself is beautiful; but on the road leading to it grass is allowed to grow, which shows how little traffic there is upon it.

Formerly, the native chief of the land was vigorously opposed to the opening of roads. To disarm his opposition, the governor then in office devised the plan of presenting a beautiful horse carriage to the Chief. The natives of Gowa, in order to make it convenient for the carriage to pass, hastened to build a road, which is the one we have at present. This is one of the stories told as to how the Dutch diplomatically try to win the hearts of the natives, in order to open up the country.

Maros is situated about 65 km. N. of Makassar. There the Assistant Resident and the Controller reside. Of old, it was the capital city of the native chief. At present, the population is only 1,500, and it has become a small farming village. The road is level, so that it can be travelled over by automobile from Makassar. On the way, when just passing the village of Tallo, near the city, one sees a river, which is noted for the many crocodiles and large blue-tails living therein. The scenery along the road is very fine. On both sides of the road there are irrigated rice-fields, and beyond the rice-fields there are mountains far and near, which form an attractive background. About 13 km. E. of the village of Maros, at the foot of the mountains there is a waterfall, famous in the neighbourhood. About 50 km. over the mountains from Maros there is the village of Pangkadjena, where some Dutch officials reside. The scenery on the bank of the river is very picturesque.

Makassar to Menado and Gorontalo.

Leaving Makassar and sailing northward, the steamer threads her way between many crowded little coral reefs. This part is called the Spermunde Archipelago. From the southernmost to the northernmost point, it is about 50 m. This part was formerly a difficult spot for navigators. But to-day, with the completion of thorough and accurate surveys, the Royal Packet Company's steamers can go through at full speed without any apprehension. On any large island where trees are growing, there one invariably finds natives living. In fact, visitors are astonished by the density of the population. The island of Hertenbest in particular, about 15 m. off the coast of Makassar, while it is only a small island, has a population of 5,000. The houses are crowded together like the teeth of a comb. The roads are perfect. Judging from the fact that there is not a single delinquent person among the many tax-payers, the character of the people can be learnt. They are indeed a people who truly enjoy peace and prosperity, and the self-governing system, established in this whole region by the Dutch, is an ideal one.

Pare Pare is a point reached the following morning, when one boards an evening steamer from Makassar. It is surrounded by thickly-wooded mountains, and here and there are scattered *kampongs*. The population is about 2,000. The place is under the jurisdiction of the petty chief, Sidenreng, and is as yet undeveloped. The natives of the place are very skilful in handling small boats. They go half-naked, merely covering their loins with deep red sarongs, of which they are very fond. Their houses face the sea and are built high up on piles. The customs and manners of the natives to the N. can generally be judged by those of the natives of this place.

Donggala (260 m. from Pare Pare) is at the S.W. corner of Paloe Bay. The bay is larger than that of Pare Pare. It is 308 m. from Makassar and 412 m. from Menado. The calm, blue water of the bay, framed in the rich green of its surroundings, presents an attractive scene. This place is the capital of the principality of *Pare*, and the assistant resident resides there. The population is about 2,000. The town is small, but well kept. On the height behind the town are the official residences and the residences of the Europeans. The view of the bay from the height is beautiful. The town itself is situated on the bank of a small river. There the mansion of the chief, the barracks of the guards, post-offices, churches, grammar schools, etc., are located. The chief merchants, trading on the W. coast of the island of Celebes, make this port their base of operations. The chief products are copra, ebony, rattan, etc. The natives are engaged in agriculture and fishery. The women wear sarongs. The checkered fabrics, which resemble the Java calico and which are woven with silk thread imported from abroad, are very costly.

Crossing the bay and climbing the mountain E. of the village of Tawoeli, one will obtain an excellent view of the Tomini Bay, as well as of the E. coast of the island of Celebes. This point is the

narrowest of the whole island. There is a narrow path leading from here to Paloe and Parigi. Parigi and Kajeli are noted for the raising of horses. Most of the horses are exported through the port of Donggala. Sheep are also exported. Paloe is situated far inside the bay. With this place as the centre, the country all along the coast of the bay is noted for the production of copra. The whole coast is covered with coco-palms. The population of the village is only 1,000. The Controller resides there.

Kwandang (588 m. from Makassar and 132 m. from Menado), is situated in the centre of the eastern coast of the bay. The village itself is called Moloo and is two miles up from the mouth of the river. It is hidden in the shade of a forest of mangroves and nipa palms and cannot be seen from the sea. The village and the houses of the native inhabitants are well kept. Near the village there used to be a stone fort; but at the end of last century it was demolished by the pirates, so that now only its ruins remain. From this port there is a road to the village of Gorontalo (where the Assistant Resident resides). The village, which is situated on the coast behind this port (that is on the S.), is 48 km. distant and can be reached in seven hours.

E. of the port of Amoerang (680 m. from Makassar and 44 m. from Menado), the country is called Minahassa. It comprises the entire point of the north-eastern peninsula of Celebes, eastward of a line which would connect it with the sea port of Totok behind. Amoerang is one of the three ports of this Minahassa country, the other two being Menado and Totok. The water of the port is deep and calm, and steamers can anchor near the coast; but, like Menado, it is not safe during the prevalence of the N.W. wind. It has a population of about 4,000, and the Controller resides there. It is 60 m. by land from Menado. Many of those who make a pleasure trip to the Tondano Lake, which is one of the beautiful spots in this neighbourhood, land here.

Menado (692 m. from Makassar) is, next to Makassar in the S., the most important port in the island of Celebes. (Hotels: Wilhelmina, tariff, *fl.* 5; Menado, *fl.* 4). I- is the capital of the Residency of Menado. The sea route from Makassar will take four days and a half, as the steamers must call at various ports on the way. As the port faces north-westward, big waves are encountered on the route during the prevalence of the N.W. monsoon, that is from November to February or March of the following year. It is then inconvenient for anchoring, and at times communication with the land is cut off. Consequently, when the billows rage, the steamers find a refuge in the port of Kema behind, 72 m. by sea and 30 km. or more by land from Menado.

Looked at from the sea, all along the coast of Menado coco-palms are seen growing thickly, with lowly huts scattered here and there among them. Mt. Kalabat (2,018 m.), which is known as the foremost mountain of Menado, has a graceful outline. The city is situated on the slope of the mountain and is very clean. The out-

ward appearance of the city is like that of a great park. The houses, both of Europeans and natives, are built of wood, with grass-thatched roofs, and surrounded by gardens. At the landing-place on the coast, there is a long iron pier projecting into the harbour.

The section between the pier and the back of the mountain is the most important part of the city, with the custom-house, banks, and various commercial houses situated there. On the right-hand side of the coast from the pier there is the Amsterdam Fort, which is a noted one of its kind in this neighbourhood. It divides the city into two—the European and the Chinese towns. At present, it is used as military barracks, but there is no guard stationed there. The European town contains the office of the Resident, the army hospital, and the hotels. As financial organs there are, as in Makassar, the Java Bank and the branches or agencies of other Dutch banks, through which drafts can easily be sent to Java or Singapore. The rates are higher than in Makassar. The population of the city is about 10,000, of whom about 600 are Europeans and about 3,000 Chinese, besides 300 Arabs. In the city, there are only a few perfect roads and the carriages also are few. There is, however, a special kind of dog-cart for use on the mountain roads. The government offices are connected by telephone; but there are no public telephones, no electric light, gas, waterworks, etc.

There is a cable station by which it is possible to communicate through Borneo with Makassar. There is another line, which is controlled by the Germans and which is connected with the island of Yap. There are three roads from the city to outside districts. One leads to the inland table-land of Minahassa, a second to Kema on the coast behind, while the third goes to Likoepang on the N. point of the peninsula. Of these roads, the one to Minahassa gradually rises from the suburbs of Menado and after about 15 km. reaches the top of the table-land of Minahassa. From there it connects the city with Tomohon, Tondano, Amoerang, Tombatoe, etc., its

Harbour of Gorontalo, Celebes.

entire length being about 240 km. All these roads are fit for automobiles.

Climate. The climate of Makassar is better than that of Java. The climate of Menado is still better than that of Makassar. Consequently, Menado is a very healthy place. An epidemic disease hospital is scarcely to be seen. Either river-water or well-water is used for drinking. The supply of water is abundant and the quality good. Steamers can secure their water supply from the upper course of the river.

Manners. The physiognomy of the natives differs from that of the Javanese, the Makassarese, and the Boeginese. The oval faces of the women, their fair skin, and red cheeks, make them lovely. The natives dress in pants and loose gowns, while on their heads they wear straw hats or hats made of fur. The upper class women usually wear a white *kabaja* over their *sarong*. When they go out, they generally wear Dutch garments. Religion and education thrive to an extent unparalleled in the other Dutch possessions. In the city of Menado there are only grammar schools for the Europeans and the natives. But they are very well arranged, and there is no child who does not receive education. In Tomohon and Tondano, there are various kinds of schools. The Dutch have encouraged learning so much, that the natives have become very enthusiastic for the spread of education, so much so, that at present it is they who rather urge on the government to give education. The natives are also ardent for religion. They are all Christians, mostly Roman Catholics. Everywhere there are beautiful churches. On Sundays, they regularly dress themselves in their best and go to church. Among this tribe there are no Mohammedans.

Minahassa is about 500 sq. m. in area, the greater part of it forming one big table-land. On the table-land there are important villages, ranking next to Menado, Tomohon, and Tondano.

It is more than 600 metres above the sea-level. Starting directly from the southern outskirts of Menado, there is a road rising with a gradual slope, which farther on becomes sharp. By taking a light carriage drawn by two small horses, one can go all the way without alighting. About 15 km. from Menado one reaches the table-land, and from there the road becomes level. Going 8 km. farther, one reaches Tomohon. The scenery on the way is beautiful. Looking back, one sees a great panorama spread out to view. Through the trees one can see the city of Menado, with the blue water of the Bay of Menado beyond. By the roadside various indigenous tropical trees grow luxuriantly. Here and there, there are groups of native houses. The constant changes of views, as one passes on, furnish a great source of pleasure. The inhabitants, as in Menado, Tondano, and Amoerang, build their houses in groups, and the different groups used to fight against one another and even to collect human heads—so savage were they in the past. But to-day the land is permeated with civilization, and the natives have changed into a gentle race.

Tomohon (Pop. 6,000) is, next to Tondano, the chief village in the mountains of Minahassa. It is situated at an elevation of 800 metres above the sea-level and the temperature is very moderate. The streets are clean and well kept. Each house is surrounded by a garden, with a bamboo fence around it.

The majority of the inhabitants are engaged in agriculture. In the village it is ordinarily quiet, but on Wednesday and Saturday in each week, there are street sales for the convenience of purchasers, and the streets are very busy on those days. As water is plentiful, the country is well suited for the cultivation of rice and vegetables. Consequently, the vicinity of this village and Tondano and other places are full of irrigated fields. The crops are rich, and the quality of the products is excellent. The temperature rarely exceeds 80° Fahr. during the daytime. At night, the variation in temperature is less than in other places. The average temperature at night is 68° and the minimum 62°.

There are three or four grammar schools, one normal school, and one theological school for the training of missionaries. There are also one Protestant church and one Roman Catholic church.

Tondano (Pop. 12,000) is situated about 13 km. E. of Tomohon. It has a small hotel. It is the chief village among the mountains of Minahassa, and the Controller resides here.

This village can be reached from the directions of Menado and Amoerang. By the latter route, one leaves the steamer at Amoerang and hires a horse there to travel as far as Langot, (where there is a rest-house). From there one relies upon the chief of the place to hire a second horse to carry one as far as Kakas and Tondano (charge, *fl.* 5). Tondano is situated on the Lake of Tondano, which is 8 m. or more in length. The Europeans live in villas there. Not a few visitors come there for a pleasure trip. It is surrounded by irrigated rice-fields, coffee-plantations, and forests, and is a prosperous community. The citizens are happy and contented. There is a government school for the education of the children of the rajah, and also for conferring the advantages of education even on the children of the ruling classes of the natives in other of the Dutch possessions, so that they may be fitted to serve as government officials. There are, besides, grammar schools for other children. There is also a school of technology, though on a small scale. The natives are engaged principally in agriculture and also in fishery. In the lake, carp and other fish are plentiful, while on its waters are to be seen canoes, made by hollowing out whole logs and filling both ends with clay to make them watertight. The lake is surrounded on four sides by mountain peaks, one of which—the Lokon (1,592 metres)—occasionally sends forth a column of smoke. The peak which towers highest is Mt Kalabat. E. and W. of the lake extend vast prairies.

Tondano is situated in the middle of the W. prairie. A little way from Tondano there is a beautiful fall, which serves as an outlet for the lake water. At Passo, on the western shore of the lake, there is a hot spring. One can hire a native horse and ride to the hot spring. In this village of Passo there is an entomological institute conducted by the Germans.

On the south-western shore of Tondano Lake, about 32 km. E. of Tondano, lies the village of Kakas, with a population of about 2,000. From there, entering into the mountains over the mountain pass one arrives at Tombatoe, about 32 km. distant, (Pop. about 1,600). It is a smaller village than either Kakas or Tomohon, but it is an entrepôt for the products of the neighbourhood. From this place to Amoerang it is only about 21 km. Besides, as it is on the river which flows from the south-eastern side of the lake, canoes or motor-boats can reach that place.

Gorontalo (248 m. from Menado) is in communication with the outside world by means of the steamers which sail once in two weeks northward from Makassar, and those which sail from this district eastward once in four weeks. But, while the latter adhere to the scheduled dates of departure and arrival, being subsidized, the former are sometimes irregular on account of loading of cargoes, because they are free and independent. Consequently, the two services cannot be connected just as set down in the published time-tables.

Turning round the north-eastern corner from Menado, and calling on the way at Kema, Totok (where there is a gold-mining company), and Koto Boena, the steamers arrive at Gorontalo. This is a very important port at the entrance of the Tomini Bay. The population of the city is about 6,000, of whom about 150 are Europeans, about 670 Chinese, and about 350 Arabs. It is under the jurisdiction of Menado and is second in importance only to Menado. About 15 km. from the shore of Gorontalo there is the Lake of Limboto, which is about 10 km. in circumference. Gorontalo is situated at the mouth of the river which drains the lake. On each side of the river mouth there is a hill, which hides the plain behind, so that the town of the port cannot be seen from

outside. The town is situated about 2/3 km. from the mouth of the river. The mouth of the river is deep, but the current is swift, so that it is inconvenient for anchorage. The port has jetties, and there are buildings of the Gorontalo Trading Company in the neighbourhood.

The city is clean and the streets are kept in good order. An Assistant Resident is stationed there, but nominally the city is a self-governing community of natives. The natives are Alfoers, who resemble the Ternateans. They are Mohammedans and of a different race from their neighbours, the Minahassans. This district was formerly ruled by the Sultan of the Ternate.

The climate is cool and healthy in the dry season; but in the rainy season it becomes extremely unhealthy, because the river water floods the country and bad diseases prevail. Nevertheless, the land is fertile and is suitable for the cultivation of coffee and cocopalms, though, because of the shortage of labour, the country has not yet been fully developed.

Since the island became a Dutch possession, the trade of this port has increased rapidly. Besides the Gorontalo Trading Company, which is managed by Europeans, there are many companies conducted by Chinese or Arabs, which exclusively trade in rattan, dammar, wax, and other products, within the bay. Roads have been constructed to the neighbouring villages. To Kwandang (see P. 500) a government telephone line is established. Kwandang is the junction point of a cable line, which brings Makassar into communication with Menado via Borneo; so that, through the courtesy of the government, the general public may send cable messages by telephoning to Kwandang. Between Kwandang and Gorontalo there is a road along the bay, extending for about 48 km., half of which one can travel by carriage and the rest on horseback or by ox-cart.

Lake of Limbotto. Going along the road from Gorontalo to Kwandang, one reaches the shore of the Lake of Limbotto on the way. By applying to the Royal Packet Co., one can hire a horse or a bamboo raft. First one will go on horseback as far as Limbotto. On the return trip, it is convenient to take a bamboo raft, and, by crossing the lake and sailing down the river, to return to Gorontalo. Within about five miles of Gorontalo, there are various villages clustered along the road. Beyond that, there are small villages here and there. The hot spring of Anjer Panas is situated about halfway to Limbotto and near the lake.

Bathing-tanks, four metres square, have been constructed there, having their sides and bottoms made of concrete and the roofs thatched with Atap roofing. The keepers of the hot spring live in the neighbourhood and provide lodging for their patrons. The latter must, however, bring with them all necessary food, utensils, and bedding, because such things are not provided. The river water, as it runs through several places where hot water issues from the river bed, is said to have the temperature of 183° Fahr.

Limbotto is the capital of the surrounding district. It possesses some relics in the shape of old cannon and several weapons used by the Kapala Soldadoe (the official title of the Ternatean-Portuguese commanders). The water of the lake is clear and calm, and in it the green trees of the shore are seen reflected. The evening view of the lake is indeed beautiful beyond description. On the surface of the water, the leaves of aquatic plants and lotus flowers are seen in rich luxuriance, producing the impression of a floating garden. It is also the haunt of many nameless water-fowl, which are seen disporting themselves amid their peaceful surroundings.

INDEX

(C.) = *Celebes*; (D.B.) = *Dutch Borneo*; (D.E.I.) = *Dutch East Indies*; (*F.I.C.*) = *French Indo-China*; (M.P.) = *Malay Peninsula*; (P.I.) = *Philippine Islands*; (Si.) = *Siam*; (Su.) = *Sumatra*.

A

Abacá 25.
Abang (Mt.) 476.
Abra (Prov.) 74.
— (R.) 74.
Acheen *see* Atjeh.
Acop's Place 68.
Administrative System (D.E.I.) 355.
— — (F.I.C.) 122.
— — (M.P.) 275.
— — (P.I.) 20.
— — (Si.) 237.
Adran, Bishop of 180. 181.
Agno Valley Branch Ry. 61.
Agoeng (Mt.) 476.
Agriculture (D.E.I.) 368.
— (F.I.C.) 129.
— (M.P.) 284.
— (P.I.) 25.
— (Si.) 240.
Aguinaldo, Emilio 19.
Agusan (Prov.) 116.
— (R.) 13.
Ajek Ajek 469.
Ajer Tabit 490.
Alabang 79
Alahan Pandjang 490.
Albay (Prov.) 86.
Albert Dock 299.
Alcalá 76.
Alcohol (P.I.) 31.
Alfonso de Albuquerque 274.
Along, Bay of 135.
Alor Star 322.
Ambarawa 447. 453.
Ambos Camarines (Prov.) 87.
Amburayan (Prov.) 68.
A-mi-tchéou 153.
Amoentai 494.
Amoerang 500.
Ampenan 447. 473. 478.
Amusements (Si.) 249.
Anai Kloof 486.
Anak Laoet 483.
Anda Monument 46.
— y Salazar, Simón de 18.
Anderson Bridge 301.
An-duong (King) 149.
Angat 60.
Angkor (Ruins) 135. 195. 203. 230.
— -Thom 217—225.
— -Vat 206—217.
Anjerkidoel 392. 393.
Annam 122. 123.
Annamese 122. 123. 238.
— Kings, Tombs of 135. 166.
Antipolo 58.
Antique (Prov.) 98.
Aparri 75.
Apayao 68.
Apo (Mt.) 114.
Apsaras 200.
Aquarium (Manila) 45.
Arabians (D.E.I.) 353.
Arak Arak (Mt.) 472.
Arayat (Mt.) 61.
— (Town) 60.
Ardjoeno (Mt.) 449. 458.
Area (D.E.I.) 347.
— (F.I.C.) 121.
— (M.P.) 272.
— (P.I.) 11.
— (Si.) 234.
Arevalo 96.
Argao 91.
Argawoelan (Mt.) 460. 464.
Argent, Cascade d' 150.
Aringay 62. 64.
Army and Navy Club (Manila) 49.
Arnedo Dike 60.
Arnhemia 482.
Arroyo de l'Avalanche (R.) 174. 175.
Arsenal and Dock (Saigon) 179.
Asahan 482.
Asouras 211.
Ateneo de Manila 44.
Atimonan 82. 83.
Atjeh 483.
Atkinson, Dr. Fred. W. 22.
Audiencia 44.
Augustinian Church (Manila) 44.
Austronesian (D.E.I.) 352.
Automobile (D.E.I.) 334.
— Service (F.I.C.) 125.
Ayer Itam 324. 327.
Ayer Kuning 320.
Ayuntamiento 41.
Ayuthia 238. 259.
Ayuthian (Dynasty). 235.

B

Babat 454. 455.
Babuyan Is. 76.
Bac-giang (Prov.) 157.
Bac-hat 151.
Bach-ma 147.
Bac-kan 150.
Baclayon 90.
Bac-ninh 156.
Bacolod 92.
Bacon 88.
Bac-tuc 197.
Badoeng 474.
Bagabag 73.
Bagendit, L. of 416.
Baguio 63—67.
Bahau 310.
Baie d'Along *see* Along, Bay of.
Bajeuen 484.
Balapoelang 449.
Bali Is. 474.
— Straits of 473.
Balik Papan 494.
Baliuag 59.
Balong 433.
Bambangan Road 458.
Bambang Kandilaras 428.
Banadero 81.

Banajao (Mt.) 81, 83.
Banam 196.
Banaue 71, 72.
Bandar Baroe 482.
Bandjarnegara 420, 447.
Bandjermasin 493.
Bandoeng 412.
Bandon 240.
Bangil 462.
Bangkok 238, 252, 258.
— (Dynasty) 235.
Bangli 475.
Bangoi 188.
Bañgos 29.
Bang-pa-in 259.
Bangui 75.
Banjoe Biroe 447, 463.
Banjoepoetih (R.) 472.
Banjoewangi 471.
Banka Is. 375, 479.
— Straits of 375.
Bantam 378.
Bantéai-Kedei 227.
Baoeng (Falls) 458.
Baphuon (Temple) 221.
Baria 183.
Barisan (Mt.) 350.
Barito 493.
Baros 407.
Barracks (Soerabaja) 438.
Barthélemy, Marquis de 188.
Baso 490.
Bas-reliefs (Angkor) 210.
Bassac (R.) 194.
Batac 74.
Bataks 482.
Batanes Is. 76.
Batangas (Prov.) 82.
— (Town) 82.
Batang Malaka 307.
Batavia 375—392.
Bato (L.) 87.
Batoe 459.
Batoekaoe (Mt.) 476.
Batoer 447.
— (L.) 476.
— (Mt.) 476.
Batoeriti 477.
Batoe Sangkar (or Fort van der Capellen) 487.
— Toelis 405.
Batok (Mt.) 466.
Battambang 124, 202.
Battrang 148.
Batu Anam 307.
— Caves 313.
— Gajah 316.
Bauang 62, 64.
Bayambang 61.
Bayombang 73.
Bayon (Temple) 219.
Beaufort 329.
Belawan Deli 480.
Bellevue 184, 187.
Belvédère du Roi Lépreux 225.
Bengawan (R.) 433.
Bengkajang 496.
Bengkalis 480.
Benguet Consolidated Mining Co. 67.
— Prov. 67.
— Road 63, 64.
Benkoelen 484.
Benoa 433, 453
Benteng Lama 490.
Ben-thuy 162.
Bentong 315.
Ben-trê 192.
Berembun (Mt.) 316.
Besoeki 472.
Biac-na-bato 19.
Bicol 15.
Bien-hoa 182.
Bigaa 59.
Bilibid Prison 52.
Billiton Is. 375.
Bim-son 162.
Binangonan 31.
Bindjai 483.
Binondo (district) 35.
Bintang Is. 479.
Birch, J.W.W. 275.
Bird Is. 111.
Black-Flags 142.
Blimbling 456.
Blitar 433, 455.
Blora 453.
Bodhisattvas 213.
Bodjonegoro 454.
Bodjong 451.
Boeo 491.
Boejan (L.) 477.
Boekit Oepang Oepang 488.
Boeleleng 473, 474, 477.
Boentok 493.
Boetak (Mt.) 460.
Bogaert's Line Factory 170.
Bohol (Prov.) 90.
Bojolali 430.
Bolo 453.
Bombon (or Taal L.) 13, 81.
Bondjong 451.
Bondowoso 471.
Bong-mieu 172.
Bonifacio, Andres 19.
Bontoc 71.
— (Prov.) 68.
Boompjes Is. 448.
Boroboedoer 440.
Botanical Garden (Buitenzorg) 396.
— — (Hanoi) 145.
— — (Manila) 47.
Botanical Garden (Saigon) 179.
— — (Singapore) 304.
Both, Peter 378.
Botocan Falls 81.
Boulevard Paul-Bert (Hai-phong) 132.
Bourbon, Don Carles de 43.
Brajanalan 441.
Brambanan 426.
Brantas (R.) 349, 456.
Bratan (L.) 477.
Bridge of Spain (Manila) 46.
British Straits Settlements 275.
Bromo (Mt.) 466.
Brooke, Sir James 362.
Brunei 330.
Bua Valley 67.
Buddhism (D.E.I.) 365.
— (Si.) 242.
Buffalo (or Carabao) 28.
— Canyon (or Karbouwengat) 488.
Bugis 274.
Buguias 69.
Buitenzorg 395—404.
Bukidnon (Prov.) 116.
Bukit Chandan 318.
— China 308.
— Gantang 320.
— Putus Pass 310.
Bulacan (Prov.) 60.
Bulletin de l'École Française d'Extrême Orient 143, 144.
Bültzingslöwen Place 437.
Bungalows (F.I.C.) 119.
Bureau of Eduçation (Manila) 45.
— — Science (Manila) 51.
Burgos, Dr. 19.
Burleigh School Lot 108.
Burmese 236.
Burnham, Dr. D. H. 35, 65.
— Green 49.
Butuan 116.

C

Cabanatuan 59.
Cadiz 93.
Cadwallader Gibson Lumber Co. 55.
Cafés, Sight of (Saigon) 175.
Cagayan (R.) 13, 76.

Cagayan (Misamis Prov.) 115. 116.
— (Prov., Luzon) 76.
Cai-kinh 157.
Cai-ngan 191.
Cainta 58.
Calamba 79.
Calapan 88.
Caldera 109.
Calico 425.
Caloocan 59.
Calumpit 60
Cambodia 122. 123.
Cambodian 123. 238.
Cam-giang 138.
Camilling 61.
Camp Gregg 61.
— John Hay 66.
— One 63.
— Stotsenburg 61.
Camranh 134. 188.
Can-chanh (Hué) 169.
Candon 74.
Canlaon (or Malaspina, Mt.) 93.
Cantho 193.
Cao-bang 130. 150. 159.
Capiz 96. 97.
— (Prov.) 97.
Cap St. Jacques 124. 145. 183.
Captain of the Port's 7. 51.
Carabao (or buffalo) 28.
Cariedo, Francisco 53.
Cascade d'Argent 150.
Casiguran 88.
Castle (Hué) 167.
Catbalogan 89.
Cathedral of St. Mary and St. John (Manila) 50.
— of the Immaculate Conception (Manila) 43.
Catinat, Rue (Saigon) 174.
Cattle (F.I.C.) 129.
— (P.I.) 28.
— and Poultry (D.E.I.) 372.
Câu-do (or Ha-dong) 148.
Cavenagh Bridge 301.
Cavite 77.
— Boulevard 50.
— (Prov.) 77.
— Viejo 77.
Cebu 90. 91.
Cementerio del Norte 53.
Central Observatory (Manila) 50.
Cera, Friar Diego 77.
Cervantes 69.
Cervantes Baseball Field 52.
Ceylon 243.
Cham 123. 178.
Chandelier Is. (Along Bay) 136.
Chantaboun 240. 264.
Chantaburi (Prov.) 237.
Charner, Commodore 175.
Chasseloup-Laubat, Rue (Saigon) 174.
Chau-doc 193.
Chenderiang 316.
Chén-vu-ta-ti (Hanoi) 146.
Cheribon 449.
Chiengmai (or Kiangmai) 263.
China Gate (Nam-quan) 159.
— Navigation Co. 8.
Chinese 353.
— Quarter (Batavia) 389.
— Sago Factory 330.
— Temple (Ayer Itam) 327.
— — (Batavia) 391.
Cho-bo 124. 148. 152.
Cho-ganh 162.
Cholon 190.
Cho-moi 150.
Christianity (D.E.I.) 365.
Christian (or Regular) Prov. (P.I.) 20.
— Tribes *see* Filipinos
Christmas Is. 275.
Chrui-changva 197.
Chua-tien (Pagoda) 148.
Chu-moi (Bay) 165.
Chumpawn 240.
Chumpon (Prov.) 237.
Church of the Third Order 45.
Cie Française des Chemins de Fer de l'Indo-Chine et du Yun-nan 123. 149.
— Minière de Bongmieu 172.
Citadel (Hanoi) 141.
City Garden (Soerabaja) 437.
Civa 211.
Claire (R.) 151.
Climate (Baguio) 65.
— (D.E.I.) 334.
— (F.I.C.) 117.
— (Lang-bian) 185.
— (M.P.) 266.
— (Manila) 36.
— (Menado) 502.
Climate (Mountain Prov., P.I.) 68.
— (Penang) 325.
— (P.I.) 3.
— (Si.) 233.
— (Singapore) 298.
— (Tam-dao) 151.
— (Zamboanga) 103.
Coal (D.E.I.) 373.
— (M.P.) 282.
— -mines (Hongay) 135.
Coastal Communication (D.E.I.) 342.
— — (F.I.C.) 124.
— — (M.P.) 278.
— — (Si.) 240.
Cochin-China 122.
Cock-fighting 249.
Cock Pits (Manila) 38.
Coconut (M.P.) 286. 287.
— Palm (P.I.) 25.
Cocos Island 275.
Coen, J.P. 378. 388.
Coffee (D.E.I.) 369.
— (M.P.) 284.
Coffins of Toeban 448.
Col des Nuages 164.
College of Medicine (Manila) 51.
— — Agriculture (P.I.) 80.
Collins, James 285.
Co-loa 149.
Comat Palace 167.
Communications (D.E.I.) 339.
— (F.I.C.) 123.
— (M.P.) 276.
— (P.I.) 6.
— (Si.) 238.
Connaught Bridge Junction 314.
— Drive 301.
Consulates (Bangkok) 257.
— (Batavia) 370.
— (Cebu) 90.
— (Hai-phong) 132.
— (Hanoi) 142.
— (Iloilo) 94.
— (Manila) 43.
— (Penang) 325.
— (Saigon) 177.
— (Singapore) 293.
— (Zamboanga) 102.
Contract-travelling (Angkor) 195.
Controller (D.E.I.) 371.
Copra (M.P.) 287.
Corn (D.E.I.) 368.
Cornish, Admiral 18.
Corregidor Is. 33. 55.

Costume (D.E.I.) 362.
Cotabato (Prov.) 115.
Country Club (Baguio) 66.
Coxinga 18.
Crag Hill 324. 327.
Çri Yaçovarman (King) 205.
Cua-cam (R.) 131. 136.
Cue-day (R.) 171.
Cuartel de España 45.
Culion Is. 98.
Cultivated Lands (P.I.) 12.
Currency *see* Money.
Custom House (Batavia) 375. 331.
— — (D.E.I.) 321.
— — (F.I.C.) 117.
— — (Manila) 51.
— — (M.P.) 266.
— — (N.Borneo) 328.
— — (P.I.) 2.
— — (Si.) 231.
Customs *see* Habits.
Cuyo Is. 99.
Cyama Ratta (Mekong R.) 235.

D

Daban 187.
Daendels, Marshal 379. 388. 406.
Dago 412.
Dagupan 61. 73.
Dai-cung-mon(Gate) 169.
Dai-ngai 194.
Daklan 69.
Dalat 184. 185. 187.
Damar Moyo 428.
Danao 91.
Dancing of Cambodia 199.
Dansalan 115.
Dap-cau 137. 156.
Dapitan 111.
Darawati (Mt.) 458.
Dasmarinas, Governor Gomez Perez 40.
Datroum (Pass) 186.
Dau 61.
Davao (Prov.) 115.
Day (Mt.) 160.
Deaf and Blind School (Manila) 46.
Defense (Si.) 237.
Défert (Plateau) 150.
Demak 452.
Den Pasar 474.
Depok 394.
Deposito (Manila) 54.
Devas 211.
Dewa Kosoumi (Prince) 441.
— Soelan Iloe 465. 468.
Dewey, Admiral 19. 77.
Dia 148. 152.
Didoardjo 462.
Diego Lopez de Sequira, Admiral 274.
Dieng 446.
— Plateau 445.
Diepo Negoro 422.
Dindings 275. 323.
Divisoria Market 52.
Djaboeng 457.
Djambatan Merah 438.
Djambi 479.
Djatibarang 449.
Djeding (L.) 472.
Djembangan (Mt.) 460. 470.
Djember 471.
Djiring 184. 186.
Djoban Rondo (Cataract) 457.
Djoenggringselaka 470.
Djokja, or Djokjakarta 362. 420.
Djombang 454. 455.
Doerga 426.
Dogo 412.
Dominican Church (Manila) 42.
Dông-anh 150.
Dong-ha 171.
— -dang 159.
— -duong 172.
Donggala 499.
Dong-giao 161.
— -khan (King) 166. 169.
— -khê 159.
— -trieu 137.
Donnai (R.) 174. 182.
Dô-son 134.
Doumer, Paul 123. 137. 138.
Dragon-Noir 153.
Dran 184.
Draper, General 18.
Dress (Si.) 246.
— (D.E.I.) 362.
— (P.I.) 23.
Drinks (Si.) 247.
Duc-bo 172.
Duprê, Admiral 141.
Dutch East India Company 361.
Dumaguete 92. 93.
Dumangas 96.
Dungun (R.) 282.
Dusun Tua 314.

E

Eastern Line (Si.) 238.
Education (D.E.I.) 365.
— (F.I.C.) 128.
— (M.P.) 288.
— (P.I.) 22.
— (Si.) 244.
Elcano, Juan Sebastian 41.
Electric Tramways (Bangkok) 253.
— — (Batavia) 383.
— — (Hanoi) 139.
— — (Manila) 39.
— — (Singapore) 291.
Elephant (Si.) 251.
— Hunt 261.
Elks Club 49.
Elo (R.) 440.
Emmahaven 485.
Engineer Is. 46.
Erberveld, Peter 391.
Ermita 35.
Escolta 35. 51.
Exhibition of Native Crafts 425.
Experimental Station (Buitenzorg) 404.
— — (K. Lumpur) 313.

F

Faber (Mt.) 299.
Fai-foo 171.
Fait-si-long, Bay of 136.
Fauna (D.E.I.) 354.
— (F.I.C.) 121.
Faura, Rev. F. 50.
Federated Malay States 273. 275.
— — — Railway 276. 306.
Festivals (F.I.C.) 120.
— (Si.) 249.
Ficus Elastica 285.
Filipinos (or Christian Tribes) 15.
Fimnon 184. 187.
Fishery (D.E.I.) 374.
— (F.I.C.) 129.
— (P.I.) 28.
— (Si.) 241.
Fish-fighting 249.
Fish Market (Batavia) 394.
— Pond (Soerabaja) 438.
Fleuve Antérieur (R.) 193.

Fleuve Postérieur (R.) 193.
— Rouge (or Red River) 121.
Flora (D.E.I.) 355.
— (F.I.C.) 121.
— (P.I.) 29.
Florida Blanca 60.
Food and Drinks (D.E.I.) 364.
— — (Si.) 247.
Foot-print of Buddha (Phnom-penh) 199.
Foreign Trade *see* Trade.
Forestry (D.E.I.) 380.
— (F.I.C.) 129.
— (P.I.) 12. 29.
— (Si.) 241.
Fort Canning 303.
— de Kock 487.
— McKinley 56.
— Prins Hendrik 438.
— — van Oranje 452.
— San Antonio de Abad 51.
— Santiago 41.
— van der Capellen (or Batoe Sangkar) 490.
Franciscan Church (Manila) 45.
Francis-Garnier, Dyke 148.
Francis Garnier, Quai (Saigon) 174.
Free travelling (Angkor) 195.
French Town (Hanoi) 140.
Fruits (P.I.) 29.

G

Galoenggoeng (Mt.) 419.
Gap, The (or Round the Gap) 305.
Garden of Economic Plants 304.
Garnier, Lieutenant Francis 141.
Garoeng 446.
Garoet 414.
Garouda 211.
Gede (Mt.) 406. 410.
Gemas 306. 307.
Geography (D.E.I.) 348.
— (F.I.C.) 121.
— (M.P.) 272.
— (P.I.) 11.
— (Si.) 234.
George town 324.
Germinal Tobacco Factory 47.
Gia-dinh 180. 189.
— -hoi 170.
— -lam 138.
— -long (King) 123. 166. 170. 175.
Gianjar 475.
Giri 439. 467.
Gitgit 477.
Go-dau-ha 189.
Goebeng 437.
— Sluice 437
— Station 434.
Goendih 435. 453.
Goentoer (Mt.) 414.
Golden Tree (Hué) 170.
Gondang Wetan 463.
Gopeng 316.
Gorontalo 503.
Govap 182. 189.
Government Hill (Hanoi) 303.
— House (Singapore) 303.
Governor-General (D.E.I.) 358.
— — (F.I.C.) 122.
— — (M.P.) 275.
— — (P.I.) 20.
Grabak Merbaboe 447.
Grand Bouddha, Temple (Hanoi) 146.
Grandière, Commodore 176.
— -Lac (L.) 202.
Grave, Mr. De 492.
Grisee 439.
Grit 279. 319.
Grotte de la Surprise 136.
— des Merveilles 136.
Grottes de Marbre (or Marbre Grottos) 164.
Guadalupe (Luzon) 56.
Gubat 88.
Gugop Valley 321.
Guides (D.E.I.) 338.
— (F.I.C.) 120.
— (M.P.) 271.
— (P.I.) 5.
— (Si.) 231.
Guinlahon 88.
Gumaca 84.
Guzerat (Indian Prince) 442.
Gymnasium William III 883.

H

Habits (D.E.I.) 362.
— (F.I.C.) 128.
— (M.P.) 287.
Habits (P.I.) 23.
— (Si.) 244.
Hadoan 148.
Ha-dong 148.
Hai-duong 138.
Haight's Place 68.
Hai-ninh (Prov.) 137.
Hai-phong 131—134.
Halcón (Mt.) 88.
Halmaheira 35.
Haloum (Pass) 186.
Hamankoe Boewo no IV (Sultan) 424.
Ha-nam (Prov.) 160.
Handicrafts (F.I.C.) 130.
Hanoi 118. 139—148.
— -Bentuy (Line) 123. 160.
— -Hai-phong (Line) 123. 133.
— -Nam-quan (Line) 123. 156.
— -Yun-nan (Line) 123. 149.
Hargreaves' School (Baguio) 67.
Hatou 135.
Head Water Mining Co. 67.
Hei-long-tan (or Dragon Noir) 153.
Helfach's Garden 458.
Hell Temple (Hanoi) 147.
Hendric Swaardecroon 391.
Herrera, Antonio 56.
Hertenbest Is. 499
Hevea Brasiliensis 285.
High Commissioner (M.P.) 275.
Highways *see* Roads.
Hill Garden (Tjibodas) 404. 409.
Hindu (D.E.I.) 353.
Hinduism 242.
History (Angkor) 204—206.
— (Batavia) 378.
— (D.E.I.) 360.
— (Fai-foo) 171.
— (Hanoi) 141.
— (Hué) 166.
— (M.P.) 273.
— (Manila) 36.
— (Penang) 324.
— (P.I.) 17.
— (Saigon) 175.
— (Si.) 234.
Hoa-binh 148.
Hoang-mai 162.
Hoc-mon 189.
Hoi-how 134.
Ho-kéou 153.

Holidays (F.I.C.) 120.
— (M.P.) 271.
— (P.I.) 5.
Holy Bath at Polaman 458.
— Child of Cebu 91.
Homonhon 89.
Hondagua 82. 84.
Hongay 130. 135.
Hospicio de San José 54.
Hôtel du Gouverneur-Général (Hanoi) 146.
Hotels (D.E.I.) 335.
— (F.I.C.) 119.
— (M.P.) 263.
— (P.I.) 3.
— (Si.) 253.
Houses (D.E.I.) 364.
— (F.I.C.) 128.
— (M.P.) 288.
— (Si.) 248.
Houtuan, Cornelius (D.E.I.) 361.
Huapanh (Mt.) 121.
Hué 165. 170.
Hung-hoa 148.
— -mieu (Temple) 170.
Huong-canh 150.
— -Tich (Pagoda) 148.
Hygiene (Si.) 234.
— (Singapore) 298.

I

Ice and Cold Storage Plant (Manila) 47.
Ider Ider (Mt.) 467.
Idjen Plateau 471.
Idjo Pass 468.
Ifugao 72.
Ifugaos 16.
Igorots 16.
Ilagan 76.
Iligan 115. 116.
Ilocanos 15.
Ilocos Norte (Prov.) 74. 75.
— Sur (Prov.) 74. 75.
Iloilo 94. 95.
— (Prov.) 97.
Indonesians 235. 352.
Indragiri (R.) 488.
Indramajoe 449.
Indravarman, King 219.
Indro Kilo 460.
Industry (D.E.I.) 367.
— (F.I.C.) 129—130.
— (M.P.) 282.
— (P.I.) 24—31.
— (Si.) 240—242.
Inhabitants (D.E.I.) 352.
Inhabitants (F.I C.) 122.
— (M.P.) 273.
— (P.I.) 14.
— (Si.) 238.
Intendencia Building 43.
Interisland Navigation (P.I.) 7.
Intramuros (or Walled City) 40.
Ipoh 316. 317.
Isarn (Prov.) 237.
Islas Filipinas 17.
Itinerary Plan (D.E.I.) 332.
— — (F.I.C.) 118.
— — (M.P.) 267.
— — (P.I.) 2.
Iwahig Penal Colony 98.

J

Jago (Kampong) 299.
Jardin d'Eté (Hué.) 168.
Jardine's Wharf 299.
Jayavarman II (King) 205.
— V. (King) 205.
Jesselton 329.
Johnston's Pier 300.
Johore Bharu 306. 307.
— Lama 307.
— (State) 273. 306.
Jolo 112.
Jules-Ferry 132.
Jusi 23. 31. 360.
Justice (F.I.C.) 123.
— (Si.) 237.

K

Kabaya 432.
Kadipaten 449.
Kain Kapala 425.
— Pandjang 425.
Kajang 310.
Kajeli 500.
Kajoe Tanam 486.
Kalabat (Mt.) 500.
Kalangan 440.
Kalassan 426.
Kali 428.
Kalianda 484.
Kali Mas (Soerabaja) 438.
Kalinga 68.
Kalingas 16.
Kalisat 471.
Kamal 439.
Kampong Jago 299.
Kampot 197.
Kamunting 322.
Kandang Badak 411.
Kapitunan 19.
Kapoeas (R.) 351. 496.
Kapok 371.
Karangasem 477.
Karang Intan 493.
Karbouwengat (or Buffalo Canyon) 488.
Kasiguran 83.
Kasoer (Mt.) 410.
Kauravas 210.
Kawah Idjen 472.
— Kamodjan 416.
— Manoek 417.
Kawah's Kidang 446.
Kawah Tjondro di Moeko 447.
Kawa-Kawa 108.
Kawang 329.
Kawi (Mt.) 457.
Kébao 130. 137.
Kedah 267. 273.
— (State) 322.
Kediri 433. 455.
Kedoeng Djati 453.
Kelantan 267.
— (R.) 273.
Keloet (Mt.) 455.
Kema 503.
Kemajoran 376.
Kendeng (Mt.) 472.
Kening (R.) 454.
Kepala (Mt.) 470.
Keppel Harbour Dock 299.
Kerosine Oil (D.E.I.) 373.
Kerteg 446.
Kertosono 433. 455.
Ke-sat 128.
Kesiman 474.
Kew (Botanical Gardens) 286.
Khank-hoa (Prov.) 188.
Khmer 123. 145. 178. 201 205. 235.
Kiangan 72.
Kidal 457.
Kinalang 482.
King's Dock 299.
Kin-nieu-tseu 155.
Kintamani 475.
Kinta (R.) 316.
— Valley 316.
Kite-flying 249.
Klakah (L.) 470.
Klang 314.
— (R.) 311.
Klegoeng 440.
Kloengkoeng 475.
Klong 184. 187.
Kloof van Harau 489.

Klossot (Mt.) 469.
Koeala Simpang 484.
Koeboer Radjo 491.
Koeboetambahan 477.
Koembala (L.) 469.
Koeta Dalem 477.
— Radja 484.
Koetei (R.) 351. 495.
Koetoardjo 420.
Koh-Si-Chang 264.
— — — Is. 252.
Kompoug-chnang 202.
— -luong 202.
Koningsplein 387.
Koninkliyke Paketvaart Maatschapij 331. 343.
Korat 238. 262.
— Line 238.
Kota Agoeng 484.
— Baroe 494.
— Batoe 404.
— Baharoe 487.
Kotta Station 434.
Kradenan 453.
Krakatau (or Rakata) 393.
Kramat 378.
Kraton (of Sultan) 423.
— (of the Soesoehunan) 431.
Krawang 394.
Krees 432.
Krian District 322.
— Road 322.
Krishna 211.
Kriss (or Krees) 432.
Krung Kao or Ayuthia (Prov.) 237.
Kuala Kangsar 279. 318. 319.
— Kelantan 278.
— Kenering 279. 319.
— Krau 279.
— Kubu 278. 279. 315.
— Langat 310.
— Lipis 279. 315.
— Lumpur 269. 311.
— Pilah 278. 310.
— Sapetang 321.
— Selangor 310. 314.
Kuching 330.
Kwanchow-wan 134.
Kwandang 500.
Ky-lua 159.

L

Laboean 391. 393.
— Amoek 473.
— Bilik 482.
Labu 310.
Labuan 275.
Lagoon Wet Dock 299.
Laguimanoc 83.
Laguna de Bay (or Lake Bay) 13. 34. 78.
Lai-thien 182.
Lakes (P.I.) 13.
Lakitau 79.
La Laguna (Prov.) 80.
Lalidjiwo 459.
Lal-loc 76.
Lamao 55.
Lamongan 454. 467.
— (Mt.) 467. 470.
Lampegan 408.
Lamphun, Kingdom of 235.
Lampong 484.
Lanao L. 115.
— (Prov.) 115.
Land (D.E.I.) 347.
— (M.P.) 272.
— (P.I.) 11.
— of the White Elephant 234.
— — Yellow Robes 234.
— Routes (M.P.) 277.
Lang-bian (Plateau) 184. 187.
— -cao (R.) 171.
Langkat 483.
Lang-nac 157.
— -son 158.
— -tho 170.
Langsuan 240.
—, Plain of 414.
Languages (D.E.I.) 337.
— (F.I.C.) 120.
— (M.P.) 271.
— (P.I.) 24.
— (Si.) 231.
Laoag 74. 75.
Laoet Is. 494.
Lao-kay 152. 153.
Laos 122. 123. 235.
Larut Hill 321.
Lasem (Mt.) 448.
Las Piñas 77. 79.
La Trinidad 66. 68.
La Union (Prov.) 62.
Lavezares, Guido de 18.
Lawang 458.
— (Plain) 464.
Lawangan (Mt.) 461.
Lawoe (Mt.) 433.
Lawton, Gen. Henry W. 57.
L'Ecole Française d'Extrême-Orient 143.
Legaspi, Miguel Lopez de 17. 36. 91.
Legations (Bangkok) 257.
Leles (L.) 416.
—, Plain of 414.
Lê-Loi 141. 147.
Lembang 413.
Lêmy 148. 152.
Lenggong 319.
Lengkong 433.
Lepanto (Prov.) 67.
Le Petit-Lac (Honoi). 147.
— Phnom 200.
— Pont Doumer (Bridge) 138.
Leyte Is. 89.
Lho Seumawe 484.
Lien-Gou-Gah (Cataract) 187.
Lieutenant-Governor (F.I.C.) 123.
Light, Captain Francis 324.
Li Ma-hong 18. 62.
Limas (Mt.) 460.
Lima-awa 89.
Limay 55.
Limbotto (L.) 504.
Limo Kaoem 491.
Lingayen Gulf 61.
Lingga Is. 480.
Lin-ngan, Prefecture 153.
L'Institut Pasteur (Nha-trang) 188.
— — (Saigon) 180.
Litjin 472.
Lodje Kedjil 422.
Loebock Selasi 492.
Loemadjang 471.
Lokon (Mt.) 503.
Lombok 478.
Long Iram 495.
Long-wang-miao 155.
— -xuyen 193.
— -tchéou 159.
Lopburi 238.
Los Baños 79.
Luang-Prabang 130.
Lucena 82. 83.
Luneta Park 49.
Lutas 69.
Lykles, Dr. 461.

M

Mabitac 80.
Mactan Is. 92.
Madioen (City) 433.
— (R.) 433.
Madoera (Is.) 439.
—, Strait of 433.
Madjaphahit 360.
Magalang 61.

Magao (Mt.) 94
Magat 72.
Magelang 445.
Magellan, Fernando (or Hernando de Maghallanes) 17. 92.
Mahâbhârata 210.
Mahakam (R.) *see* Koetei.
Maimbung 114.
Major Mine (Baguio) 66.
Makassar 497.
Malabang 116.
Malabon 59.
Malacañan Palace 54.
Malacca 267. 275. 307. 308.
— (State) 308.
Malam 184.
Malang 456.
Malaspina (Mt.) 93.
Malate 35.
Malay Polynesian 352.
Malolos 60.
Manaoag 62.
Manbajao 116.
Mangaldan 62. 73.
Mangani 490.
Manila 33—54.
— Bay 33. 55.
— Chamber of Commerce 37.
— -Dagupan Ry. 35.
— Golf Club 59.
— Merchants' Association 5.
— Polo Club 77.
— (or Tondo) Sta. 52.
— Transfer Co. 33.
Manindjau 488.
Manners *see* Habits.
Man-rang 187.
Mansion House (Baguio) 66.
Manufactures (D.E.I.) 367.
—— (F.I.C.) 130.
—— (P.I.) 30.
Mao-khê 137.
Maos 420.
Maqueda Bay 89.
Maquiling (Mt.) 80. 81.
Marabahan 494.
Marapalam 491.
Marble Grottos 164.
Marinduque Is. 84.
Marine Products (D.E.I.) 374.
Mariquina Valley 57.
Mariveles (Mt.) 55.
Maros 496.
Martapoera (R.) 493.
— (Town) 493.
Masbate Island 88.
Matang 321.
— (Mt.) 330.
Mataram 422. 473. 478.
Matoer 488.
Maulana Malik Ibrahim (Tomb of) 439.
Maxwell's Hill 321.
Mâya 444.
Mayon Volcano 86.
Measures (D.E.I.) 337.
— (F.I.C.) 119.
— (M.P.) 269.
— (P.I.) 4.
— (Si.) 232.
Medan 480.
Meester Cornelis 392.
Mekong (R.) 121. 196. 201.
Melanesian (or Negrito) 235. 352.
Mempawa 496.
Menado 500.
Menagerie (Solo) 431.
Menam (R.) 234.
Menangkabau 491.
Mendali (L.) 471.
Mendoet 440.
Menggelunchor 319.
Menoreh (Mt.) 440.
Merak 392.
Merapi (Java) 421. 440. 472.
— (Su.) 488.
Merbaboe (Mt.) 447.
M. F. Co. 124. 133.
Military Plaza 51.
Minahassa 502.
Mindanao (R.) 13.
Mindro Development Co. 26.
— Is. 88.
Minh-mang (King) 166. 170.
Mining (D.E.I.) 730.
— (F.I.C.) 130.
— (M.P.) 282.
— (P.I.) 30.
— (Si.) 242.
Ministères, Allée des (Hué) 167. 168.
Minto (Lord) 379.
Mirador (Gate) 167.
— (Mt.) 66.
Misamis (Prov.) 116.
Mlati 440.
M. M. Co. 117. 173.
Modjokerto 433.
Moeara Enim 479.
— Kalaban 492.
— Klingi 479.
Moendoek 477.
Moengal (Mt.) 467.
— Pass 466.
Moentilan 440.
Moera Djawa 495.
Moeria (Mt.) 448.
Moesi (R.) 350. 479.
Mohammedanism 242. 288. 365.
Molenvliet 389.
Moncay 137.
Money (D.I.E.) 336.
— (F.I.C.) 119.
— (M.P.) 269.
— (P.I.) 4.
— (Si.) 232.
— -order 126.
Mong-tseu 153.
Monsoons (F.I.C.) 118.
Montalbán 57.
Monte de Piedad 54.
Moros 15.
Mountain (D.E.I.) 348—352.
— (F.I.C.) 121.
— (M.P.) 272.
— (P.I.) 12.
— (Si.) 234.
— Prov. (P.I.) 67. 72.
— Trail (P.I.) 68.
Moussion, Major 153.
Muelle de la Industria 7. 51.
Mui-ngoc 137.
Muntinlupa 79.
Muntok 479.
Muong-man 183.
Murton, H.T. 304.
Museum (Ayuthia) 260.
— (Batavia) 386.
— (Hanoi) 144. 145.
— (Hué) 170.
— (Phnom-penh) 201.
— (Saigon) 178.
My-son 164. 172.
My-tho 191.

N

Na-cham 159.
Naga 201. 207. 212.
Naga (or Nueva Caceres) 87.
Nagotna 135.
Naguilian 64.
Naic 77.
Nakon-Chaisi (Prov.) 237.
— Rajasima or Korat (Prov.) 237.
— -Sawan (Prov.) 237.
— Sritamaraj (Prov.) 237.
Nam-dinh 160.
Nam-quan 159.
Nam-ti (R.) 152.

Narmade 474. 478.
Native Town (Hanoi) 141.
Navotas 59.
Navy Yard (Soerabaja) 438.
N. Bridge Road 303.
Ndangloe 469.
Néak-Pean 227.
Nederland Royal Mail Line 331.
Negara (R.) 494.
— (Town) 494.
Negri Sembilan (State) 274. 310.
Negritos 15. 273. 352.
Negros Is. 92.
Neutong 186.
New Harbour Dock 299.
Ngadiredjo 446. 461.
Ngadisari 468.
Ngadiwono 465.
Ngalindoeng. 407.
Ngantang 457.
Nghê-an (Prov.) 162.
Ngo-mon, Gate (Hué) 168.
Ngô-quyên (King) 149.
Nha-nam 157.
— -trang 188.
Nhât-tan, vilage (Hanoi) 147.
Ninh-binh 161.
Nippon-bashi (Fai-foo) 171.
Noesa Kambangan 420.
Noire (R.) 151.
Noi-vu Gate (Hué) 168.
Noli me tangere 44. 49.
Non-Christian (or Special) Prov. 20.
— — Tribes 15.
— -Federated Malay States 275.
Nongko Djadjar 461.
Nong-son 130. 172.
Noordwijk 386.
Normal School (Manila) 48.
Norodom, Boulevard (Saigon) 174.
— (King) 197.
North Borneo 328—330.
— Bridge Road 303.
Northern Line (Si) 238.
Norway Island 131.
Nosa Senhora da Annunciada (Church) 308.
Nueva Vizcaya Prov. 72.
Nui-sam (Mt.) 193.
Nymph's Bath 465

O

Obando 59.
Obat (Mt.) 456.
Observatory (Baguio) 66.
Occidental Negros (Prov.) 93.
Oedjoeng 434.
Oelee Lheue 483.
Oembilin Coal Mines 485. 492.
Oengaran (Mt.) 447.
Official Tourist Bureau (Batavia) 376.
Old Military Well 308.
Olongapo 55.
Oosthaven 484.
Opak (R.) 421.
Oquendo 89.
Oriental Negros (Prov.) 94.
Oton 96.
Oudong 197. 202.
Overton 115.

P

Pachim (Prov.) 237.
Paco Cemetery 48.
— Station 49.
Padaharan (or Wanaradja) 418.
Padalarang 394.
Padang 485.
— Highlands 486.
— Galanggang 488.
— Pandjang 487.
Padjagalan 418.
Padre Juan Villaverde Trail 73.
Pagode de Baleine 183.
— des Corbeaux (Hanoi) 147.
Pagsanjan 80.
Pahang 267.
— (R.) 272. 279.
Paiton 472.
Pajokoemboeh 489.
Pakan Baroe 480. 490.
Pak-hoi 134.
Pakis (L.) 470.
Paknampoh 238.
Palace of King (Phnom-Penh) 198.
— of Soesoehunan 431.
— of Sultan 423.
Palawan (Prov.) 98
Palembang 479.
Palmer (Mt.) 300.
Pampanga (R.) 13.
Pampanga (Prov.) 61.
Panai 482.
Panalokan 476.
Panaroekan 471.
Panataran 456.
Panay (town) 97.
— Is. 94.
Pandakan 459.
Pandan 74.
— (Mt.) 433.
Pandavas 210.
Panderman (Mt.) 457.
P. & O.S.N. Co. 265.
P. & O. Wharf 299.
Panembong 415.
Pangasinan (Prov.) 61.
Pangasinans 15.
Pangerango (Mt.) 408. 411.
Pangkalan Brandan 480.
Pani (L.) 469.
Panida Is. 476.
Paniqui 61.
Papandajan 417.
Papar 455.
Paracale 87.
Paraja 478.
Parakan 440.
Parakansalak 406.
Paranaque 79.
Parang 114.
Para Rubber 285.
Pare 433. 455.
Pare Pare 499.
Parigi 500.
Parit Bota 319.
Parvati 425.
Pasacao 85.
Pasar Baroe 378. 391.
— Gelap (Market) 438.
Pasay 77.
Pasig (R.) 34.
— (Town) 57.
Pasirian 471.
Pasir Kiamis 417.
— Panjang Sta. 293.
Pasoeroean 462.
Pasrepan 463.
Passanggrahan 335.
Passo 503.
Passports (D.E.I.) 331.
— (F.I.C.) 117.
— (M.P.) 266.
— (N. Borneo) 328.
— (Si.) 231.
Patani (Prov.) 237.
Patjet 411.
Patjitan 433.
Paul-Bert, Rue (Hanoi) 141.
— —, Square (Hanoi) 147.
— -Blanchy, Rue (Saigon) 174.

Payab (Prov.) 237.
Payong 432. 463.
Pearl Fishery (D.E.I.) 374.
Pekalongan 450.
Pekan 279.
Pekareman 447.
Pelaboehan Rotoe 407.
Penandjaan (Mt.) 464. 467.
Penang 265. 267. 275. 323—327.
— Gate 390.
Penanggoengan (Mt.) 449. 460.
Pengalengan 413.
Pengaron 493.
Pepper (D.E.I.) 371.
Peradeniya (Botanical Garden) 285.
Peradjen 479.
Perak (R.) 272. 279. 283. 319.
— (State) 273. 317.
Perbakti 405.
Perhentian Tinggi 309.
Petcha Bouri 264.
Petchaboon (Prov.) 237.
Petriu 238.
Phan-rang 187.
Phan-thiet 183. 184.
Philippine Assembly 20.
— Commission 20.
— Carnival 5.
— General Hospital 51.
— Library 44.
— Museum 52.
— Railway Co. 91.
— School of Arts and Trades 47.
— Vegetable Oil Co. 30.
Phimeanakas (Temple) 223.
Phnom-penh 196. 201.
Pho-cat 162.
Pho-moi 149. 152.
Phrabat 263.
Phu-cam 171.
Phuc-yen 150.
Phu-dien 162.
Phu-doan 148. 152.
Phu-lang-thuong 137. 157.
Phu-ly 160.
Phung-tien, Temple (Huê) 170.
Phu-ninh-giang 138.
Phu-tho 152.
Physical Feature (P.I.) 12.
Pi-ché-tchai 153.
Pilar (Fort) 105.
—, Shrine of 105.
— Hospital 107.
Piña 23. 31.
Pitsanuloke 238. 268.
P.tsanulok (Prov.) 237.
Place de la Cathédrale (Saigon) 180.
— Négrier (Hanoi) 139.
Places (Singapore) 304.
Playa Honda, Battle of 18.
Plaza Binondo 52.
— McKinley 41.
— Rotonda 53.
Poeasa 433.
Poebolinggo 420.
Paedjon 455. 457.
Poemahan 477.
Poendak Lemboe (Mt.) 467.
Poentijak Boekit 488.
Poeroek Tjahoe 494.
Poerwakerto 420.
Poerwodadi 453. 460.
Poerworedjo 420.
Poespo 463.
Polaman (Holy Bath at) 458.
Polis 71.
Polo 59.
Po-Nagar (Ruins) 188.
Pondok (Mt.) 320.
Ponorogo 433.
Pont des Nâga 201.
Pontianak 495.
Pontjol 451.
Porrong 433. 459.
Port Dickson 309.
— Swettenham 313.
— -Wallut 137.
— Weld (or Kuala Sapetang) 321.
Post (D.E.I.) 344.
— (F.I.C.) 125.
— (M.P.) 279.
— (P.I.) 10.
— (Si.) 232.
Prah-Khan 205. 225.
Prahoe (Mt.) 446.
Prah-Palilay (Angkor) 225.
Prai 322.
Pra-Pithu 225.
Prasat Bat-Chum 230.
— Kravanh 230.
Prê Rup 230.
Pret (Mt.) 467.
Prigen 455. 458.
Prigi Radja 480.
Primauguet, Quai (Saigon) 174.
Prins Hendrik(Fort) 438.
Probolinggo 468.
Progo (R.) 440.
P. Roque Co. 133.
Puerto Galera 88.
— Princesa 98.
Puket (Prov.) 237.
Pulau Tiga 319.
Pulog (Mt.) 68.
Pursat 202.

Q

Quang-nam 164. 171.
Quang-tri 130. 171.
Quang-yên 134.
Quiapo Church 54.
Qui-nhon 142. 172.
Quinta Market 54.
Qux-tu-giam (Huê) 167

R

Racecourse (Manila) 52.
— (Singapore) 305.
Rachgia 193.
Raden Gupolo 428.
Raden Patah 452.
Radjapada 469. 470.
Radoub, Bassin de (Saigon) 179.
Raffles Institution 302.
— Library and Museum 304.
— Place 301.
— Plain 301.
— Quay 300.
— Reclamation 302.
— , Sir Thomas Stamford 281. 302. 362. 379.
Railway (Batavia) 382.
— (D.E.I.) 339.
— (F.I.C.) 123.
— (M.P.) 276.
— (P.I.) 6.
— (Su.) 480.
— (Si.) 238.
— Stations (Singapore) 292.
— tariff (D.E.I.) 341.
— — (F.I.C.) 124.
— — (P.I.) 6.
Rajburi (Prov.) 237.
Rajendravarman (King) 205.
Rakata (or Krakatau) 393.
Ramayana 200.
Ramboet Mojo (Waterfall) 461.
Rampal (Sanatorium) 456.

Randoeblaloeng 453.
— (Station) 453.
Rangkasbetoeng 392.
Ranta 472.
Rantja Ekek 414.
Raoeng (Mt.) 348.
Rapat (Mt.) 317.
Rapides, Canal des 156.
Rattan (D.E.I.) 372.
Ratu Boko 428.
Raub (mine) 283.
Rávana 211.
Rawang Coalfiled 311.
Rayong 240.
Recoletos Church (Manila) 45.
Red Bridge 438.
Redjopodo 470.
Red River (Fleuve Rouge) 121. 140. 149.
Regoela (L.) 469.
Regular (or Christian) Prov. (P.I.) 20.
Reinwardt, C.G.E. 396.
Religion (D.E.I.) 365.
— (F.I.C.) 128.
— (M.P.) 288.
— (P.I.) 22.
— (Si.) 242.
Rembang 454.
— (Mt.) 449.
Rembau (Sta.) 309.
— Valley 309.
Rempassuk Plain 329.
Rengat 480.
Reservoirs (Singapore) 305.
Resident (D.E.I.) 371.
— -General (M.P.) 275.
— -Superiors (F.I.C.) 123.
Rest-houses 269. 335.
Retjopodo (or Radjapada) 470.
Rhio Archipelago 375.
Riccio, Vittorio 18.
Rice (D.E.I.) 368.
— (F.I.C.) 129.
— (P.I.) 27.
— (Si.) 240.
— -mills (Cholon) 190.
— -Planting (Ceremony) 250.
Ridley, N. 304.
Rigault, Commodore 175.
Rijswijk 386.
Rindjani (Mt.) 478.
Ringih (Mt.) 472.
Riouw (Town) 479.
Riverine Navigation (D.E.I.) 343.
— — (F.I.C.) 124.
— — (M.P.) 279.
Riverine Navigation (Si.) 240.
River of Gold 438.
— Line (Si.) 238.
Rivers (D.E.I.) 349—351.
— (F.I.C.) 121.
— (M.P.) 272.
— (P.I.) 13.
— (Si.) 234.
— Steamer (Haiphong) 133.
Rivière, Captain Henri 142.
Rizal, Dr. José 49. 79. 111.
— Cement Co. 31.
— (Prov.) 57.
Roads (D.E.I.) 342
— (P.I.) 6.
— (Si.) 239.
Rochore Road 303.
Rock Temples 317.
Rojo, Archbishop 18.
Romblon Group 97.
Rond Point Rigault de Genouilly (Saigon) 180.
Rosales 61. 73.
Rosario (Str.) 35. 51.
Rossey-kéo (Village) 197.
Rotterdam, Fort 497.
Route Basse (Saigon) 181.
— Haute (Saigon) 181.
Routes (to Siam) 231.
Royal Palace (Bangkok) 254.
Rozario 57. 58.
Rubber (D.E.I.) 370.
— (M.P.) 284. 286.
Rue Catinat (Saigon) 174.

S

Sabang 483.
Sadec 192.
Sagay 93.
Sago-flour 368.
Saigon 119. 134. 173. 181.
— -My-tho (Line) 124. 190.
— -Nha-trang (Line) 123. 182.
— River 174.
Sainte Enfance (Saigon) 177.
St. Andrew's Cathedral 302.
— Flancis of Tears 45.
St. James 299.
— John's Hill 308.
— Paul Hill 308.
— Paul's Bay 99.
— — Hospital 44.
Sâlâ (or Bungalow Hotel) 203.
Salak (Mt.) 379. 405. 407.
— South 310.
Salam 440.
Salatiga 447.
Salazar, Friar Domingo 18.
Salcedo, Juan de 17. 36.
Salinas 73.
Salomague 74.
Samarinda 495.
Samar Is. 89.
— (Prov.) 89.
Sambas 496.
Samoque 71.
Sam-son 162.
Sanatorium, Vînh-yên Provincial 151.
San Carlos 62. 93.
— Cristôbal (Mt.) 81.
Sandakan 328.
— Gulf 328.
Sande, Francisco de 18.
Sand Sea 467.
San Fernando (La Union Prov.) 62.
— — (Pampanga Prov.) 60.
— Fibián 62.
— Francisco del Monte 54.
Sanga Sanga 495.
Sangley Point 77.
Sangsit 477.
San Ignacio Church 44.
Sanitary Conditions (D.E.I.) 335.
San José (Mindro) 26. 88.
— — de Buenavista 98.
— — Road (Zamboanga) 108.
San Juan (R.) 53.
— — de Dios Hospital 45.
— — del Monte 54.
— Lázaro Hospital 52.
— Miguel Church 54.
— — de Mayumo 59.
— — (Tarlac Prov.) 61.
— Pablo 83.
— Pedro, Fort 96.
— Ramón Penal Farm 109.
— Roque 77.
— Sebastian (or Steel Church) 53.

Santa Cruz 80.
— — Church 54.
— — Is. 111.
— Isabel College 44.
— Maria 110.
— Mesa Station 53.
Santo Nino 91.
— Tomás (Mt.) 67. 68.
— — University 41.
Santubang (Mt.) 330.
Sapat 480.
Sarawak 330.
Sarong 425.
Sassak 478.
Sawah Loento 492.
Sawal (Mt.) 449.
Sawankaloke Line (Sl.) 238.
— -Sokotai (Kingdom) 236.
School of Household Industries (Manila) 49.
Seacoast (F.I.C.) 121.
Sedakeling (Mt.) 414.
Seed (D.E.I.) 371.
Seenen, Cornelis 392.
Segamat 307.
Sekajoe 479.
Selabintana 407.
Seladjambe 411.
Selangor (State) 310. 273.
Selong 478.
Semarang 450.
Sendoro Pass 446.
Sept-Pagodes 187.
Serang 392.
Serdang 310.
Seriboe Dolok 482.
Seremban 277. 309.
Setjang 446.
Siain 84.
Siak (R.) 480.
Siamese 238.
Siam Navigation Co. 240.
Si Banteng 446.
Sibul Springs 59.
Sidoardjo 433.
Siem-reap 203.
Si Gadjah 446.
Sigli 484.
Silliman Institute 94.
Siloe Growong 419.
Silver Pagoda (Phnom-penh) 198.
Simboengan 446.
Simoor Gamelang 425.
Simpang (Soerabaja) 434.
— (Su.) 479.
Sinagar 406.
Sindanglaja 406. 408.
Singapore 265. 275. 289. 305.
— Is. 296. 306.
— (R.) 301.
Singaradja 474. 476. 477.
Singgalang 489.
Singkarak (L.) 491.
Singkawang 496.
Singkep Is. 480.
Singosari 456.
Siquijor Is. 94.
Siracha 240. 264.
Sisir 457.
Sisovat, King 199.
Sitoebondo 471.
Sitoe Tjangkoewang 416.
Situation (F.I.C.) 121.
Siva (King) 428.
Siamet (Mt.) 450.
Slendang 425.
Smeroe (Mt.) 348. 457. 467.
Soairieng 191.
Société d'Angkor 120. 198.
Soekaboemi 406.
Soeka Seneng Villa 459.
Soeket (Mt.) 472.
Soekopoero 468.
Soemari 435. 439. 454.
Soemberingin 457.
Soember Porrong Lunatic Asylum 460.
— Wekas 460.
Soembing (Mt.) 440.
Soemedang 414.
Soemenap 473.
Soemoroto 433.
Soengai Poear 488.
— Tanang 488.
Soengging (Mt.) 456.
Soerabaja 434. 439.
— Sta. 435.
Soerakarta 429. 453.
Soetji 439.
Soetowomo 446.
Sokotai 236.
Solo (or Soerakarta) 429. 453.
— (R.) 349. 449. 453.
Solok 491. 492.
Song-Câu (R.) 150.
— Day (R.) 160.
— Ki-kong (R.) 158.
Songoriti (Sanatorium) 457.
Song Tambac 132.
Sontay 148.
Sorsogon (Prov.) 88.
— (Town) 88.
Sougriva 211.
Source de Thu-duc 182.
Special (Non-Christian) Prov. 20.
Spermuude Archipelago 499.
Spices 371.
Sri Menanti 310.
Stadstuin (Garden) 437
Stadthaus (Malacca) 308.
Stagen 494.
Stamford Road 303.
State Museum 320.
Steamer Connections (D.E.I.) 331.
— — (F.I.C.) 117.
— — (M.P.) 265.
— — (N. Borneo) 328.
— — (P.I.) 1.
— — (Si.) 231.
Steamship Companies and Agencies (Singapore) 292.
Steam Tramway (Batavia) 383.
— — (F.I.C.) 138. 181. 189.
Steel (or San Sebastian) Church 53.
Stock-farming (F.I.C.) 129.
Stop-overs (M.P.) 277.
Strait Settlements 273. 275.
Subic Bay 55.
Sugar (D.E.I.) 369.
— (P.I.) 26.
Sultan Street (Sta.) 312.
Sulu (Prov.) 112.
Suoi-giao 188.
Superior Council 122.
Surigao (Prov.) 116.
Suryavarman (King) 205.
Susuhunan Gunang Djati 449.
Swettenham, F. 275.
— Pier 324.
— (Port) 283.
Syndicat d'Initiative du Nord-Indochinois 120. 144.
— — — Sud-Indochinois 120. 178.

T

Taal (or Bombon) Lake 13. 81.
— Volcano 81.
Tabanan 474.
Tabek Patah 490.
Tacloban 89. 90.
Tagbilaran 90.
Tagudin 70.
Tahan (Mt.) 272.

Taiping 269. 320.
Tais 123. 235.
Takéo 230.
— (Village) 197.
Taloek 458.
Taman Majoran 478.
— Sari 424.
— (or Water Castle) 424.
Tamblang 476.
Tambligan (L.) 477.
Tam-dao (Mt.) 150.
Tampin 307.
Tam-thanh (Pagoda) 159.
Tanah Abang 382. 383.
— Datar 490.
Tan-an 191.
Tanauan 81.
Tandjoeng Alam, Fort 490.
— Pinang 479.
— Poera 483.
Tandjong Priok 391.
Ta-nei 230.
Tangerang 392.
Tangkoeban Prahoe (Mt.) 413.
Tanglin 304.
Tanjong Bunga 324.
— Katong 305.
— Kling 308.
— Malim 315.
— Pagar Dock 299.
— — — Co. 300.
— Rhu 304.
Tan Kin Seng Fountain (Singapore) 301.
Tank Road 275.
Tapah 316.
— Road 315.
Tapioca 368.
Ta Prohm 228.
Tarik 433.
Tarlac (Prov.) 61.
— (Town) 61.
Tasikmalaja 419.
Ta-to-sseu 155.
Tayabas (Prov.) 83.
Tay-ninh 189.
Taytay 57.
Tayug 61. 73.
Tcheng-houang-miao (Yun-nan) 155.
Tea (D.E.I.) 370.
Teachers' Camp (Buguio) 66.
Tebing Tinggi 482.
Tegal 449.
Tekeumeuh 404.
Telaga Bodas 418.
— Lerie 447.
— Merdodo 447.
— Pangilan (L.) 446.
— Warna 406. 408.
Telaga Warna (Dieng Plateau) 446.
Telegraph (D.E.I.) 346.
— (F.I.C.) 125.
— (M.P.) 280.
— (P.I.) 10.
— (Si.) 232.
Telephone (D.E.I.) 347.
— (F.I.C.) 125. 142. 177.
— (P.I.) 11.
— (Si.) 232.
Telok Betong 484.
Teluk Anson 279. 315. 318.
Tembeling 306.
Temoh 316.
Tembilan 480.
Temple de Bach-ma (Hanoi) 147.
— des Deux Femmes (Hanoi) 147.
— of Music 48.
Tenggaroeng 495.
Tenggerese 465. 468.
Tengger Mountains 456. 457.
Tenom 329.
Tep-Pranam 225.
Ternate (P.I.) 77.
Tetuan Road (Zamboanga) 110.
Tevadas, Image of 210. 216.
Thai-binh (R.) 121. 131. 138.
— -ha-ap 148.
— -hoa (Palace) 169.
— -mieu, Temple (Hué) 168.
— -nguyên 130. 150.
Thanh-hoa 162.
Than-moi 157.
Than-thai, Birdge (Hué) 167. 170.
Thap-miêu 150.
That-khê 159.
Thê-mieu (Temple) 170.
Thi-câu 156.
Thien-chu, Pagoda 148.
Thieu-tri (King) 166. 170.
Thirteen Martyrs 77.
Thousand Temple (Tjandi Sewoe) 429.
Three Graces 428.
— Voices, Temple of 159.
Thua-lun 164.
Thu-daumot 182.
— -duc 182.
Thui-phuong, Village (Hanoi) 147.
Tidar Hill 445.
Tien-cha, Peninsula 164.
Tien-tche-hou (L.) 154.
Time of Visit (Angkor) 203.
— — (D.E.I.) 334.
— — (F.I.C.) 117.
— — (M.P.) 267.
— — (P.I.) 3.
— — (Si.) 233.
Tin (D.E.I.) 103. 283.
— (M.P.) 283.
Tjakranegara 478.
Tjampaka 493.
Tjampid (Mt.) 472.
Tjandi Ardjoeno 446.
— Bimo 446.
— Boebrah 429.
— Boroboedoer 442.
— Djorowadi 446.
— Kali Bening 426.
— Kalongan 430.
— Loembong 429.
— Loro Djonggrang 426.
— Mendoet 440.
— Pawon 441.
— Plaosam 430.
— Sewoe (Thousand Temple) 429.
— Werkoedoro 446.
Tjapoes, Falls of 404.
Tjatjaban 413.
Tjemara Lawang 467.
Tjiampelas 412.
Tjiandjoer 407.
Tjibadak 307.
Tjibalok (R.) 403.
Tjibatoe 414.
Tjibeaureum, Falls of 407. 410.
Tjibodas 408.
Tjidahoe 405.
Tjijoeroeg 405.
Tjikadjang 419.
Tjikampek 394.
Tjikoeraj (Mt.) 418.
Tjilamaja 394.
Tjilatjap 420.
Tjilegon 392.
Tjiliwoeng 377. 392. 395. 398. 399.
Tjimahi 412.
Tjimandiri 407.
Tjimanoek 418.
Tjindin 439.
Tjipanas (or Tjipannas) 408.
— (near Garoet) 415.
Tjiparai 417.
Tji Paroegpoeg 418.
Tjipeujeum 413.
Tjirandjong 411.
Tjiremai 449.

Tjiremai (Mt.) 449.
Tjiribon (or Cheribon). 449.
Tjisadane (R.) 395. 405.
Tjisaroea 406. 408.
Tjisoeroepan 415.
Tjisokan (R.) 411.
Tjitjalengka 414.
Tjitaroem (R.) 413.
Tjobong (L.) 446.
Tjoeroeg Halimoen 413.
Toba (L.) 48[illegible].
Tobacco (D.E.I.) 370.
— (P.I.) 26.
Toegoe 406.
Toeloengagoeng 433. 455.
Toempang 457. 468.
Toentang (Fall) 447.
Toja Ketipat 477.
Tomohon 502.
Tondano 503.
Tondo Church 52.
— (or Manila) Sta. 52.
Tong-Doc 190.
Tongking 122. 123.
Tonlé-sap (R.) 197. 201.
Toog Bimo 446.
Topography (F.I.C.) 121.
Topside (Baguio) 66.
Tosari 461.
Totok 503.
Tourane 119. 134. 163. 172.
Tourane-Hué, Line 165.
Tour-Cham 184. 187.
Tour de Confucius 170.
— — l'Inspection (Saigon) 180. 189.
Tou-Tchou-miao (Pagoda) 153.
Trade (D.E.I.) 374.
— (F.I.C.) 130.
— (M.P.) 280.
— (P.I.) 31.
— (Saigon) 175.
— (Si.) 240.
— (Singapore) 298.
Tramway (Manila) 39.
Trang-bang 189.
Tranninh (Mt.) 121.
Tras 315.
Travelling Expenses (F.I.C.) 119.
— Outfit (M.P.) 267.
Tra-vinh 192.
Trawas 459.
Trenggalek 455.
Trengganu 273. 275.
— R. 273.
Tretes 45[illegible].
Trian, Rapids of 183.
Trident (Peak) 150.
Trieu-mieu, Temple (Hué) 148.
Trinidad Valley 66.
Trogong 415.
Trolak Forest Reserve 315.
Tronoh (Tin-field) 316.
Trung-ha 148.
Tu-duc (King) 166. 170.
Tuguegarao 76.
Tuyên-quang 124. 148. 152.

U

Udon (Prov.) 237.
Ulu Langat 310.
— Liang (Mt.) 315.
— Selangor 310. 314.
Under ground river. (Palawan Is.) 99.
Union Ticket and Information Co. 52.
University Hall (Manila) 50.

V

Valley of Death 447.
Vat-Prah-Kéo (Silver Pagoda) 198.
Vegetable-fibre (D.E.I.) 95.
Veth's Hill 461.
Victoria Dock 299.
— Memorial Hall 301.
— Pier 324.
Viétri 151.
Vigan 74.
Villalobos, Ruy Lopez de 17.
Villa Pauline 417.
Vinh 130. 162.
— -long 192.
— -yên 130. 150.
Visayan Republic 20.
Visayans 15.
Visaya's (Is.) 89. 98.
Vishnou 214.
Von Imhoff, G.W. 395.
Vorstenlanden 421.

W

Wadas 394.
Wajang (Mt.) 413.
Wallace Field 50.
Wanaradja (or Padaharan) 418.
Wat Benchamabopit (Temple) 257.
— Chang (Temple) 25[illegible]
— Chimaraj (Temple) 263.
Water Castle 424.
— -Drinking Ceremony 250.
Waterfall Garden 327.
Waterlooplein 388.
Water Routes (M.P.) 278.
Wates 421.
Wat Phanajaxing 261.
— Phra Keo (Temple) 256.
— Po (Temple) 255.
Wat Ramand (Temple) 263.
— Sa Ket (Temple) 254.
— Sampeng 257.
— Xajavatauaram 261.
Wedoe (Mt.) 458.
Weights (D.E.I.) 336.
— (F.I.C.) 119.
— (M.P.) 270
— (P. I.) 4.
— (Si.) 232.
We Is. 48[illegible].
Weld Quay 324.
Welhelmina Tower 438.
Welirang (Mt.; near Mt. Keloet) 459.
— — (near Tretes). 456, 459.
Wellesley (Prov.) 275. 322.
Weltevreden 385.
Wendali (L.) 471.
Wendit 456.
Wen-miao 155.
Wickham, H.A. 285.
Widodaren 466. 467.
Wild Game (F.I.C.) 122. 157. 162. 1[illegible].
— — (P.I.) 2[illegible].
Wilhelmina Tower 438.
Wilis Geb (Mt.) 433.
Willem I 447. 453.
Winongan 463.
Wolfram (M.P.) 282.
Wonokitri 421. 465.
Wonokromo 435. 462.
Wono-sari 421. 461.
Wonosobo 446.
Woodlands 306.
Woongkol (Mt.) 428.
Wou-houa-chan 155.
Wou-houa-sseu 155.
Wringin 472.
Wynkoopsbay 407.

X

Xomgom 184. 187.
Xuân-Kiêu 149.

Y

Yaback 186.
Yaçodharapura 205.
Yankas 186.
Yen-bay 152.
Yen-phu-phong, Dyke (Hanoi) 147.
Yen-thê 157.
Yen-vi, village 148.
Yen-viên 149. 156.
Yersin, Dr. 188.
Y.M.C.A. (Manila) 47.
— (Singapore) 303.
Yuan-tong-sseu 155.
Yu-long-tseu 155.
Yun-nan-fu 154—155.
Yun-nan Tongking Railway Co. 123.

Z

Zacate 56.
Zambalans 15.
Zamboanga 101—114.
— Hospital 107.
Zapote Bridge 77.
Zigzag (Baguio) 63.
Zwaantjesdroogte (Is.) 464.

大正六年 三月廿九日印刷
大正六年 四月一日發行
大正九年十二月廿二日再版發行

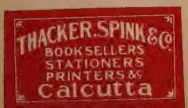
鐵道省

印刷者 野村宗十郎 東京市京橋區築地三丁目十一番地

印刷所 株式會社 東京築地活版製造所 東京市京橋區築地二丁目十七番地

Printed at The Tōkyo Tsukiji Type Foundry.

915.4
J
1920
Japan. Dept. of railways.
East Indies.



EASTERN ASIA
giving
Key to Volumes
and
General Maps
EXPLANATION
In red : The regions enclosed by dotted lines are allotted to separate volumes, as indicated.
In blue : Roman numerals indicate the volume, and Arabic figures the page, on which will be found the general map of the section enclosed by continuous lines.
Amoy
Swatow
Canton
Taiwan
Macao
Hong-kong
Hanoi
Rangoon
SIAM
Bang kok
ANNAM
Saigon
Luzon
Philippine Islands
Manila
Mindanao
CHINA SEA
Malay pen.
Volume V
SUMATRA
Singapore
BORNEO
CELEBES
NEW GUINEA
Batavia
JAVA
TIMOR
V.
IV.
II.
I
20
10
0°
10°
100°
110°
120°
130°
140°

Volume I
Volume II
Volume III
Volume IV
Atlantic Ocean
America
Africa
Asia
Pacific Ocean
Indian Ocean
Australia
SIBERIA
Kamchatka
Saghalien
Kabafuto
Irkutsk
L. Baikal
Mandchouria
MONGOLIA
SINKIANG
KOKONOR
TIBET
CHINA
Harbin
Vladivostok
Hakodate
Hokkai-do
Peking
Feng-tien
Tien-tsin
Chaifoo
Chefoo
Kiao-tchou
Kei-jo
Fusan
Tokyo
Shimonoseki
Nagasaki
Nan-king
Hankow
Wu-chang
Shanghai
Hang-chow
Han-yang
R. Yang-tze-kiang
R. Huang-ho
JAPAN
PACIFIC OCEAN